

1/36

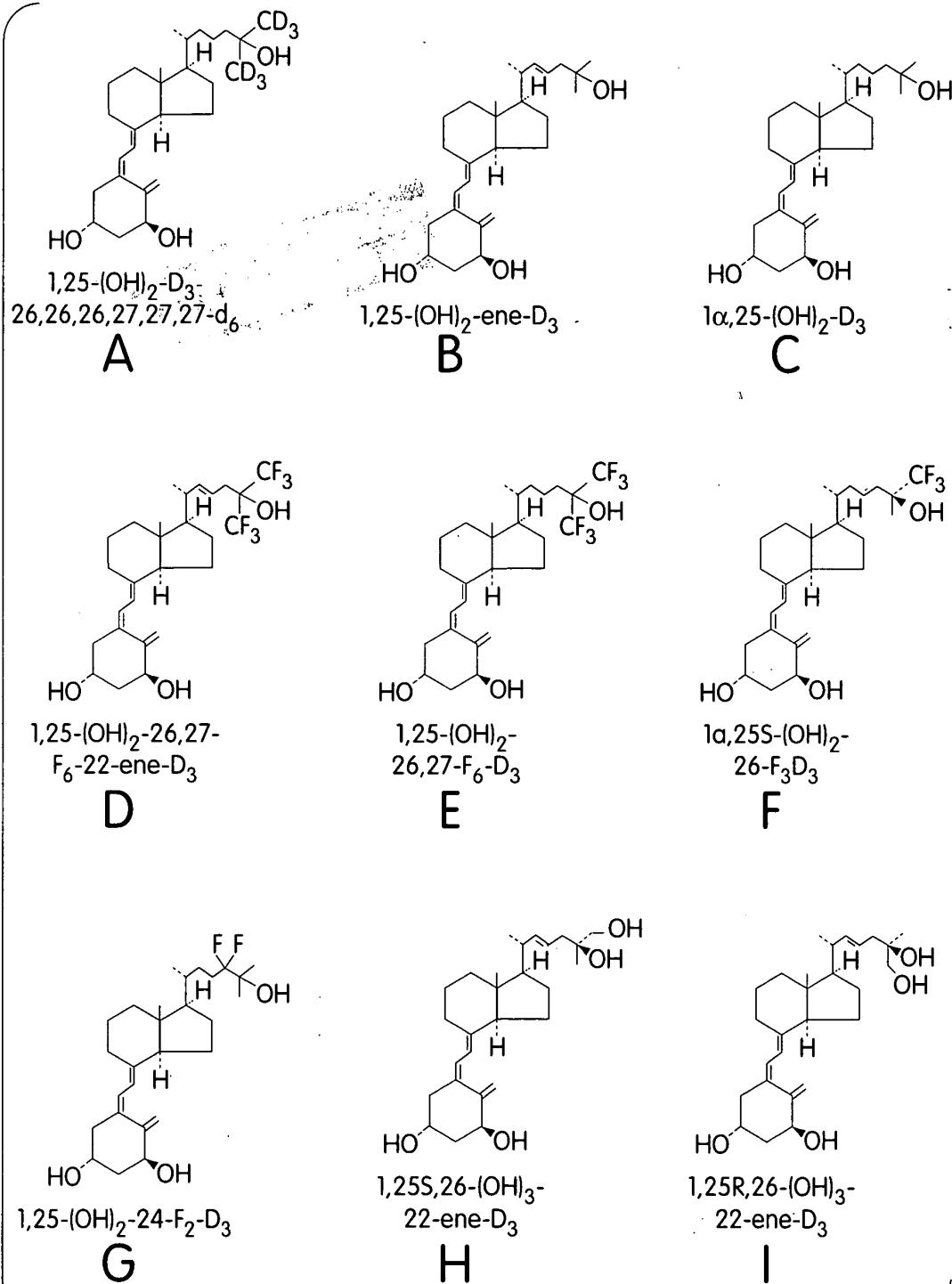
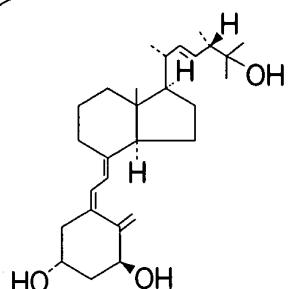


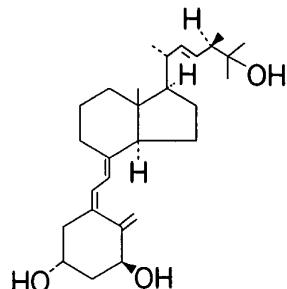
Fig. 1

2/36



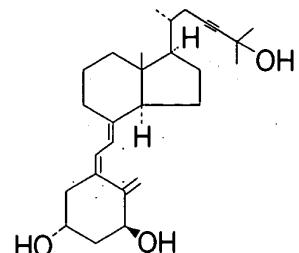
1,25-(OH)<sub>2</sub>-D<sub>2</sub>

J



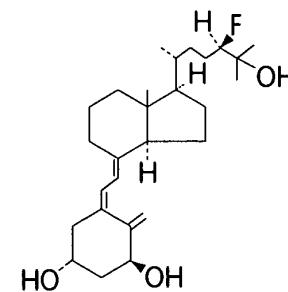
1,25-(OH)<sub>2</sub>-  
24-epi-D<sub>2</sub>

K



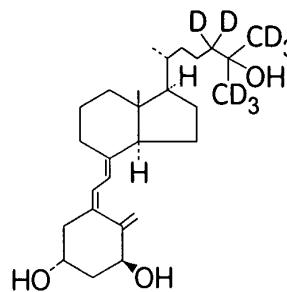
1,25-(OH)<sub>2</sub>-  
23-yne-D<sub>3</sub>

L



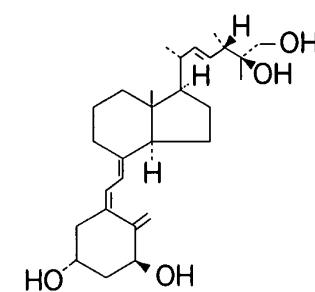
1,25-(OH)<sub>2</sub>-24R-F-D<sub>3</sub>

M



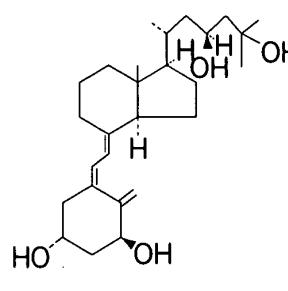
1,25-(OH)<sub>2</sub>-D<sub>3</sub>-  
24,24,26,26,26,27,27,27d<sub>8</sub>

N



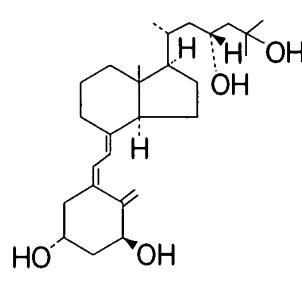
1,25S,26-(OH)<sub>3</sub>-D<sub>2</sub>

O



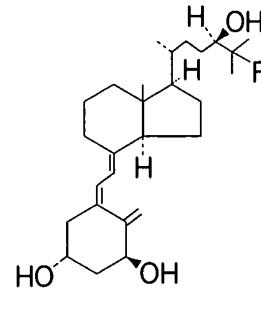
1,23S,25-(OH)<sub>3</sub>-D<sub>3</sub>

P



1,23R,25-(OH)<sub>3</sub>-D<sub>3</sub>

Q



1,24R-(OH)<sub>2</sub>-25-F-D<sub>3</sub>

R

Fig. 1Cont.

3/36

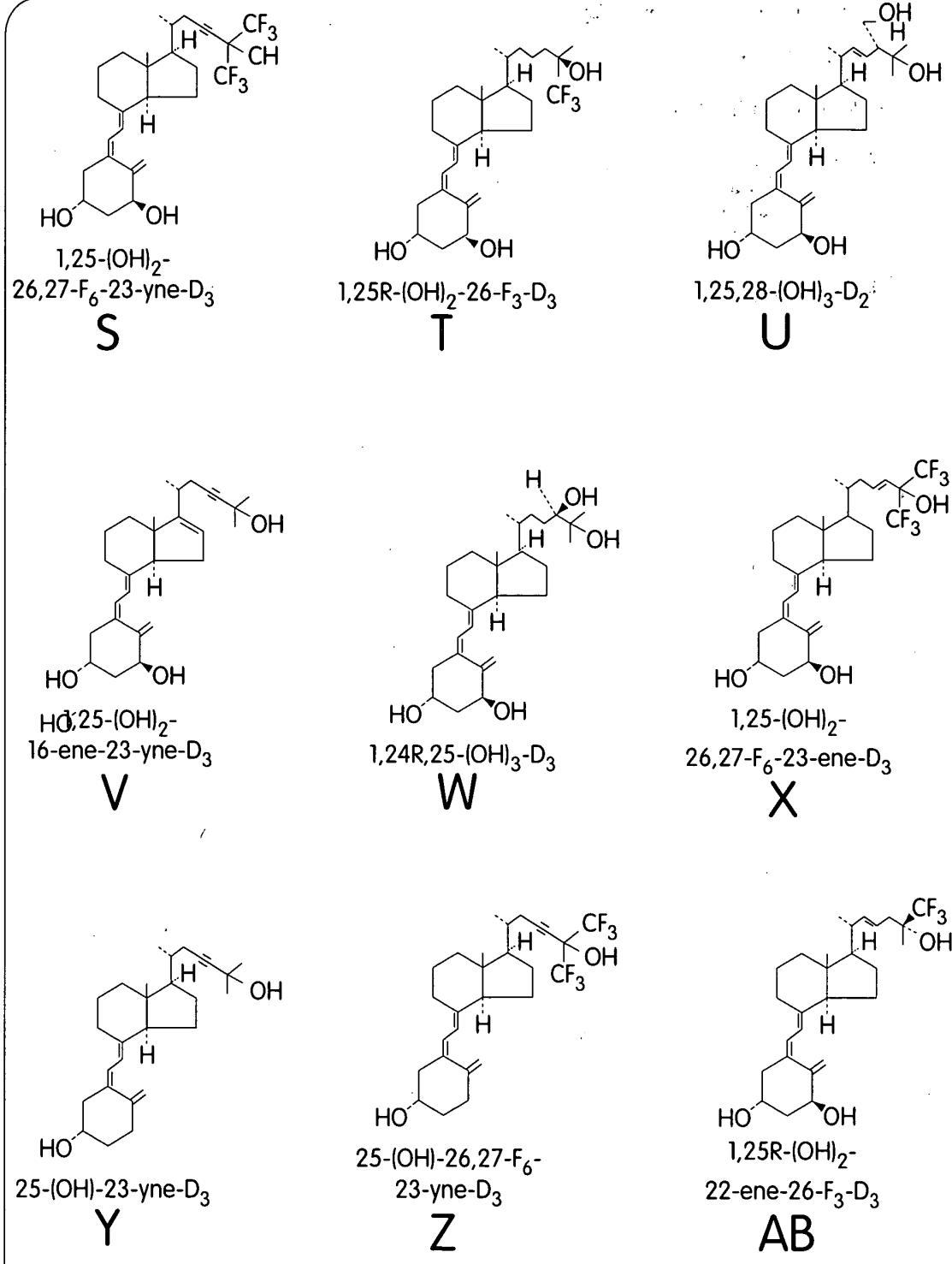
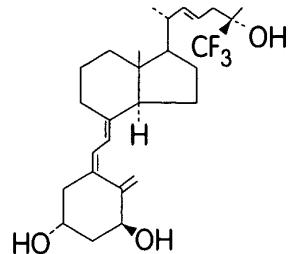


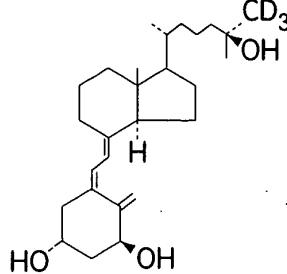
Fig. 1Cont.

4/36



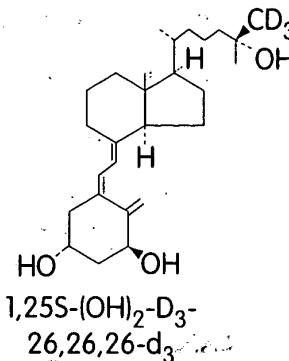
1,25S-(OH)<sub>2</sub>-  
22-ene-26-F<sub>3</sub>-D<sub>3</sub>

AC



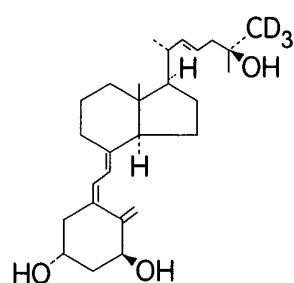
1,25R-(OH)<sub>2</sub>-D<sub>3</sub>-  
26,26,26-d<sub>3</sub>

AD



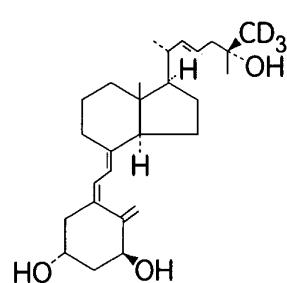
1,25S-(OH)<sub>2</sub>-D<sub>3</sub>-  
26,26,26-d<sub>3</sub>

AE



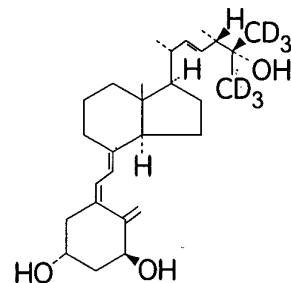
1,25R-(OH)<sub>2</sub>-  
22-ene-D<sub>3</sub>-26,26,26-d<sub>3</sub>

AF



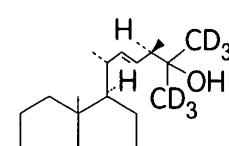
1,25S-(OH)<sub>2</sub>-ene-  
D<sub>3</sub>-26,26,26-d<sub>3</sub>

AG



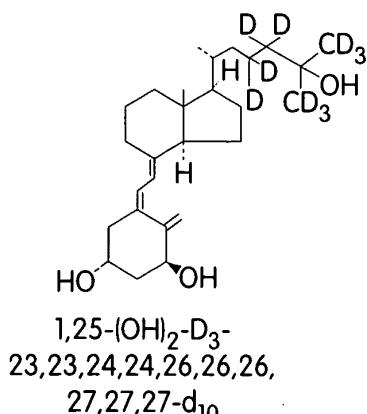
1,25-(OH)<sub>2</sub>-D<sub>2</sub>-  
26,26,26,27,27,27-d<sub>3</sub>

AH



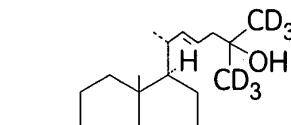
1,25-(OH)<sub>2</sub>-24-epi-D<sub>2</sub>-  
26,26,26,27,27,27-d<sub>6</sub>

AI



1,25-(OH)<sub>2</sub>-D<sub>3</sub>-  
23,23,24,24,26,26,26,  
27,27,27-d<sub>10</sub>

AJ

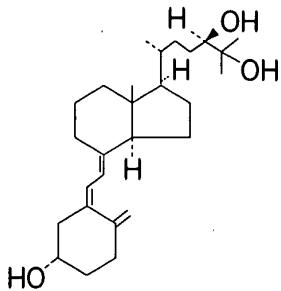


1,25-(OH)<sub>2</sub>-22-ene-D<sub>3</sub>-  
26,26,26,27,27,27-d<sub>6</sub>

AK

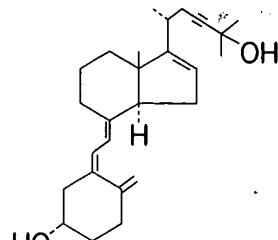
Fig. 1Cont.

5/36



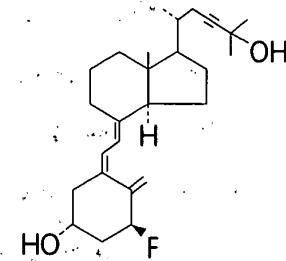
24R,25-(OH)<sub>2</sub>-D<sub>3</sub>

AS



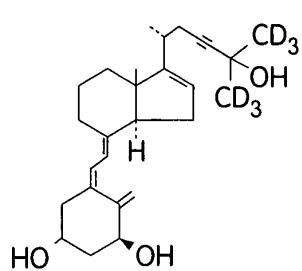
25-(OH)-16-ene-  
23-yne-D<sub>3</sub>

AT



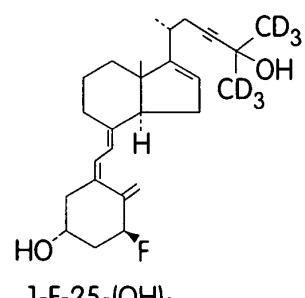
1-F-25-(OH)-  
16-ene-23-yne-D<sub>3</sub>

AU



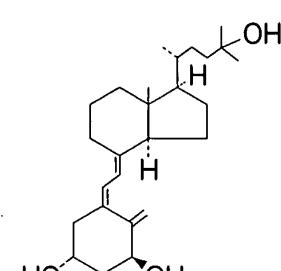
1,25-(OH)<sub>2</sub>-16-ene-23-yne-  
D<sub>3</sub>-26,26,26,27,27,27-d<sub>6</sub>

AV



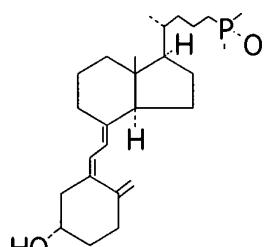
1-F-25-(OH)-  
16-ene-23-yne-D<sub>3</sub>-  
26,26,26,27,27,27-d<sub>6</sub>

AW



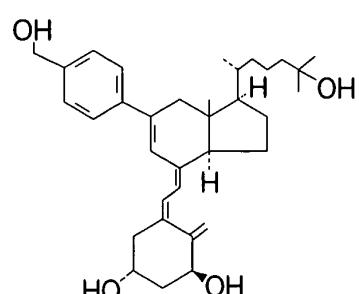
24-Nor-1,25-(OH)<sub>2</sub>-  
D<sub>3</sub>[DN,DO,DP]

BA



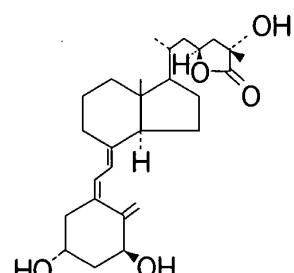
25-Oxo-25-phospho-  
vitamin D<sub>3</sub>

BB



9(11)-Dehydro-11-  
(4-hydroxymethylphenyl)-  
1,25-(OH)<sub>2</sub>-D<sub>3</sub>

BD

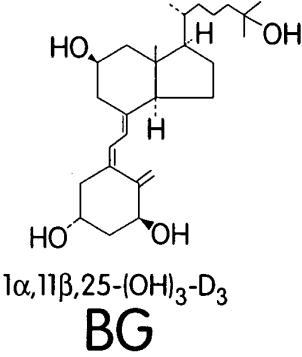


23S,25S-1α,25-(OH)<sub>2</sub>-  
D<sub>3</sub>-26,23-Lactone  
(23S,25S-26,23-LACTONE)

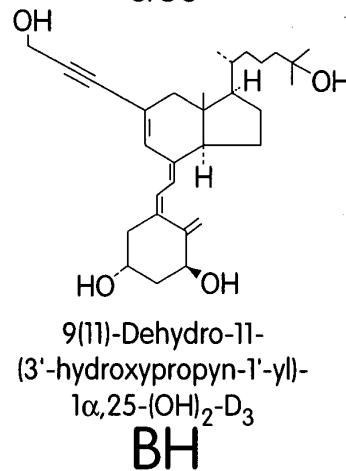
BF

Fig.1 Cont.

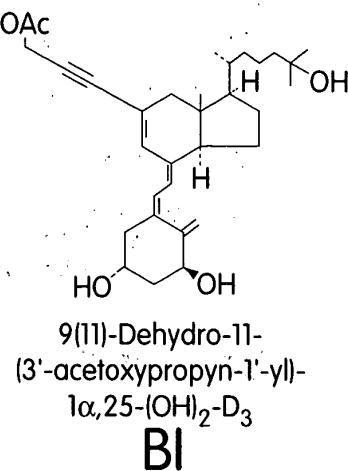
6/36



**BG**

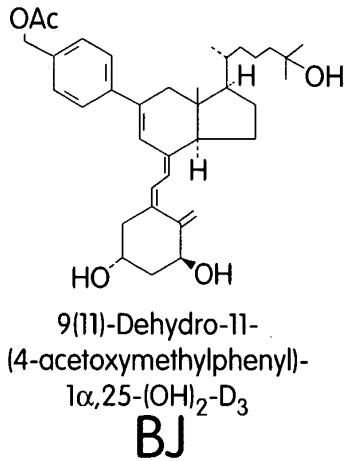


9(11)-Dehydro-11-(3'-hydroxypropyn-1'-yl)-1 $\alpha,25\text{-}(\text{OH})_2\text{-D}_3$



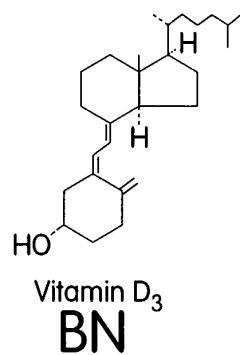
9(11)-Dehydro-11-(3'-acetoxypropyn-1'-yl)-1 $\alpha,25\text{-}(\text{OH})_2\text{-D}_3$

**BI**

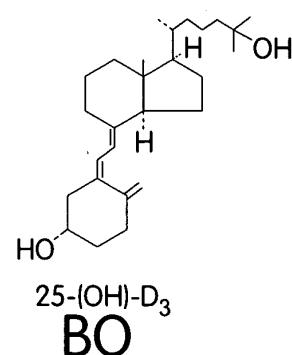


9(11)-Dehydro-11-(4-acetoxymethylphenyl)-1 $\alpha,25\text{-}(\text{OH})_2\text{-D}_3$

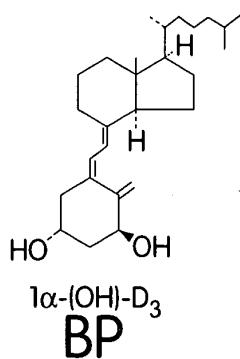
**BJ**



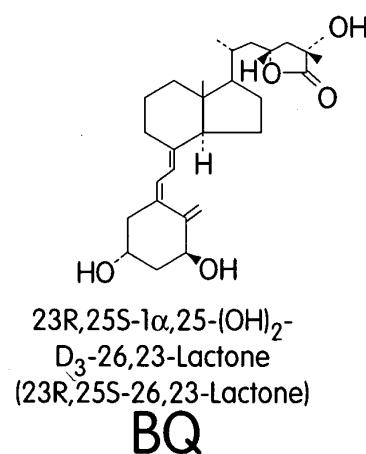
Vitamin D<sub>3</sub>  
**BN**



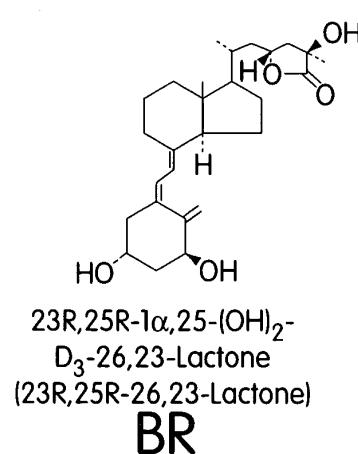
25-(OH)-D<sub>3</sub>  
**BO**



1 $\alpha$ -(OH)-D<sub>3</sub>  
**BP**



23R,25S-1 $\alpha,25\text{-}(\text{OH})_2\text{-D}_3$ -26,23-Lactone  
(23R,25S-26,23-Lactone)  
**BQ**

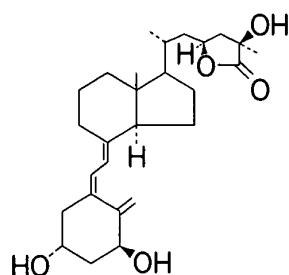


23R,25R-1 $\alpha,25\text{-}(\text{OH})_2\text{-D}_3$ -26,23-Lactone  
(23R,25R-26,23-Lactone)  
**BR**

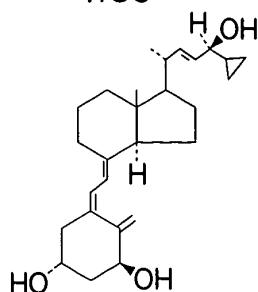
**Fig. 1CONT.**



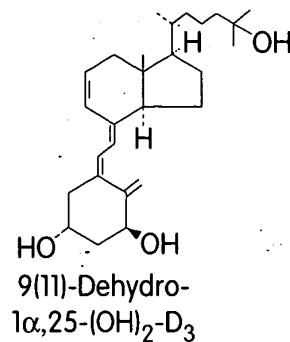
7/36



23*S*,25*R*-1*α*,25-(OH)<sub>2</sub>-D<sub>3</sub>-26,23-Lactone  
(23*S*,25*R*-26,23-Lactone)

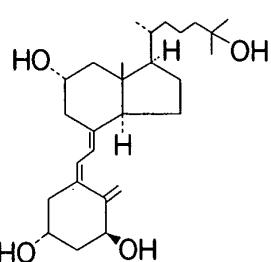
**BS**

1*α*,24*S*-(OH)<sub>2</sub>-22-ene-  
26,27-Dehydrovitamin D<sub>3</sub>  
(Calcipotriol)

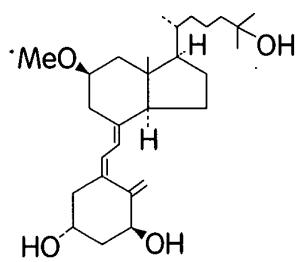
**BT**

9(11)-Dehydro-

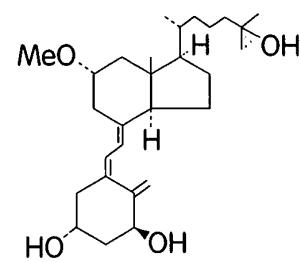
1*α*,25-(OH)<sub>2</sub>-D<sub>3</sub>

**BU**

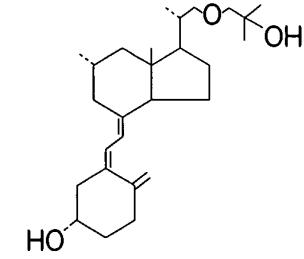
1*α*,11*α*,25-(OH)<sub>3</sub>-D<sub>3</sub>

**BW**

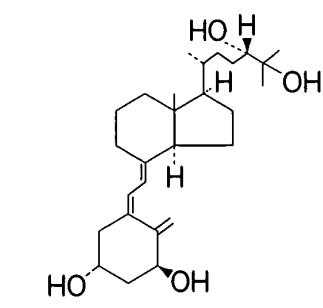
11*β*-Methoxy-  
1*α*,25-(OH)<sub>2</sub>-D<sub>3</sub>

**BX**

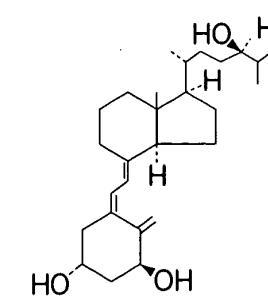
11*α*-Methoxy-  
1*α*,25-(OH)<sub>2</sub>-D<sub>3</sub>

**BY**

25-OH-23-Oxa-D<sub>3</sub>

**BZ**

1*α*,24*S*,25-(OH)<sub>3</sub>-D<sub>3</sub>

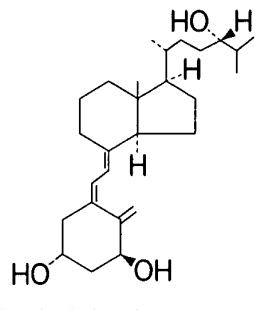
**CA**

1*α*,24*R*-(OH)<sub>2</sub>-D<sub>3</sub>

**CT**

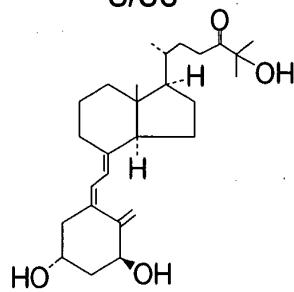
Fig. 1Cont.

8/36



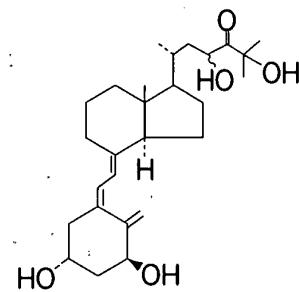
1 $\alpha$ ,24S-(OH)<sub>2</sub>-D<sub>3</sub>

CU



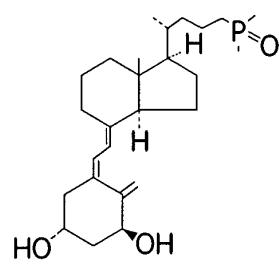
1 $\alpha$ ,25-(OH)<sub>2</sub>-  
24-Oxo-D<sub>3</sub>

CW



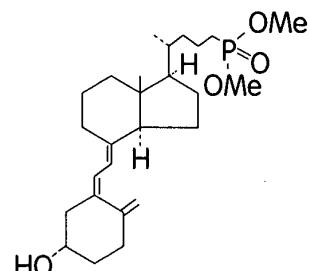
1 $\alpha$ ,23,25-(OH)<sub>3</sub>-  
24-Oxo-D<sub>3</sub>

CX



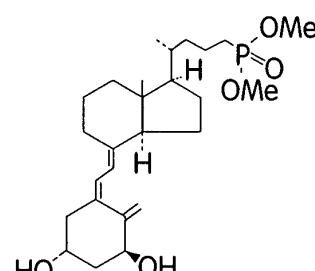
1 $\alpha$ -(OH)-25-Oxo-  
25-phospha-D<sub>3</sub>

DA



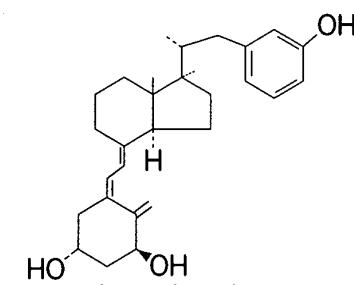
25-Oxo-26,27-  
dimethyl-25-phospho-  
26,27-dioxa-D<sub>3</sub>

DB



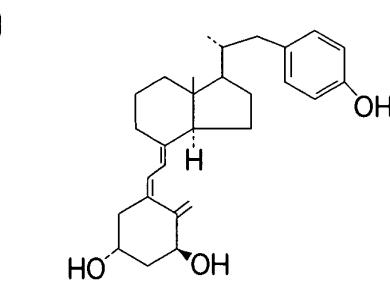
1 $\alpha$ -(OH)-25-Oxo-26,27-  
dimethyl-25-phospho-  
26,27-dioxa-D<sub>3</sub>

DC



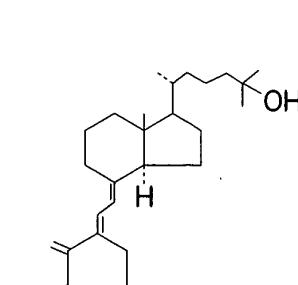
22-(m-Hydroxyphenyl)-  
23,24,25,26,27-pentanor-  
1 $\alpha$ -(OH)-D<sub>3</sub>

DE



22-(p-Hydroxyphenyl)-  
23,24,25,26,27-pentanor-  
1 $\alpha$ -(OH)-D<sub>3</sub>

DF

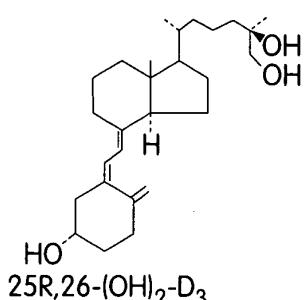


1 $\alpha$ ,25-(OH)<sub>2</sub>-  
5,6-trans-D<sub>3</sub>

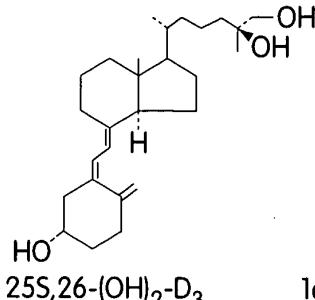
DI

Fig. 1Cont.

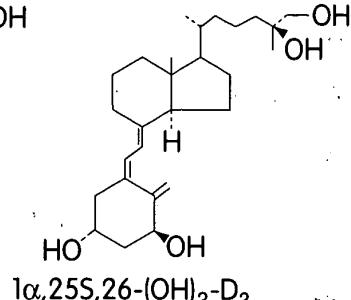
9/36



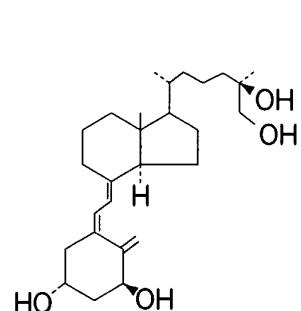
DJ



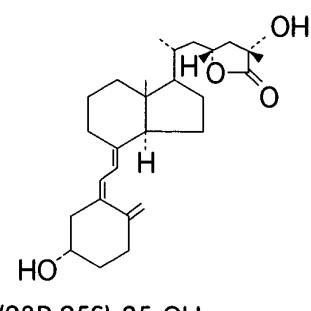
DK



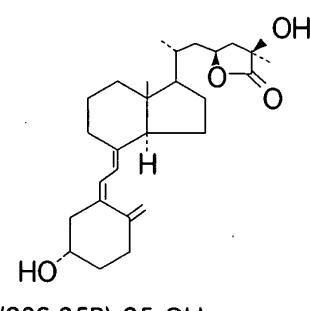
DM



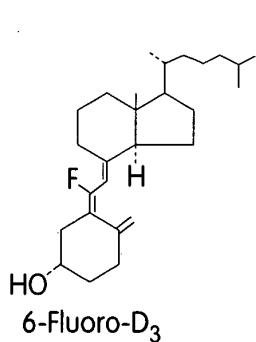
DN



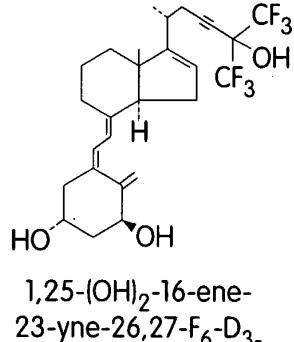
EC



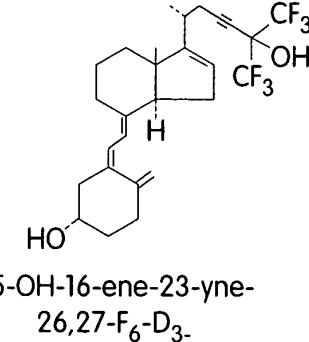
ED



EM



EO



EP

Fig. 1Cont.

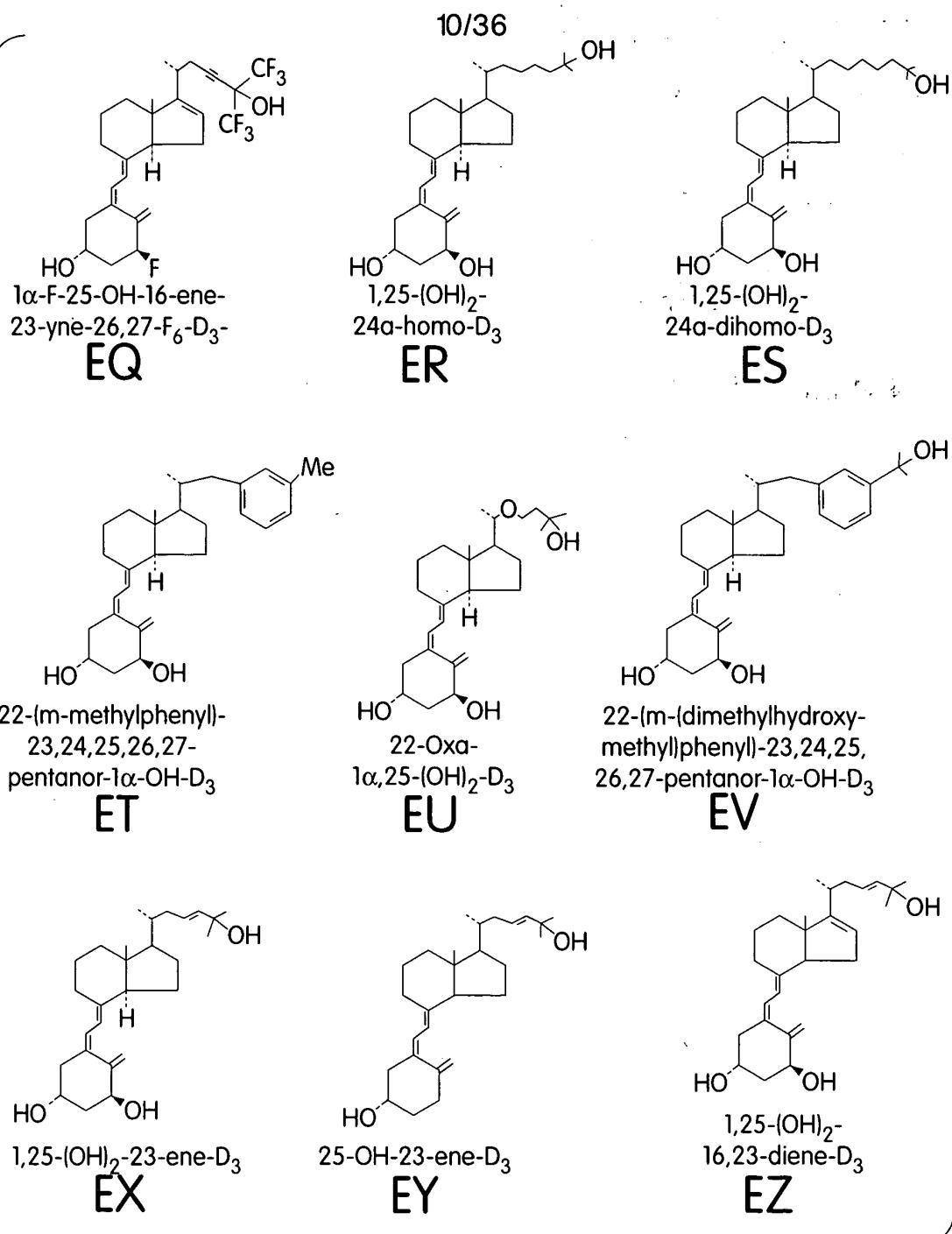
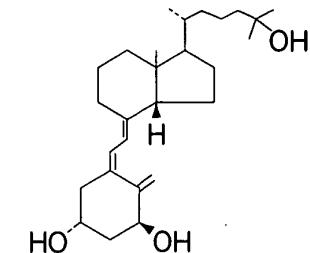


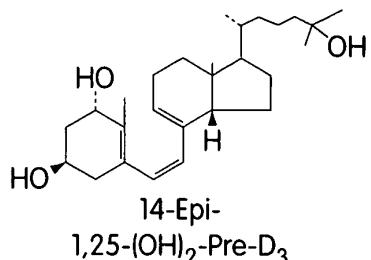
Fig. 1Cont.

11/36



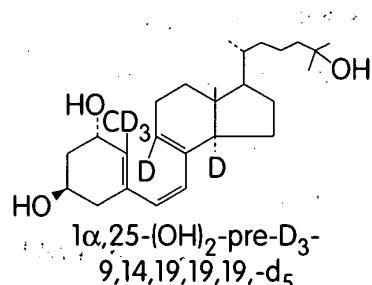
14-Epi-1,25-(OH)<sub>2</sub>-D<sub>3</sub>

**GE**



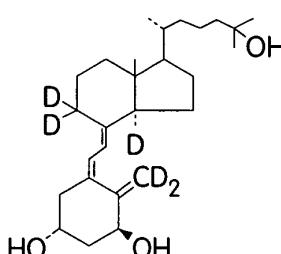
14-Epi-  
1,25-(OH)<sub>2</sub>-Pre-D<sub>3</sub>

**GF**



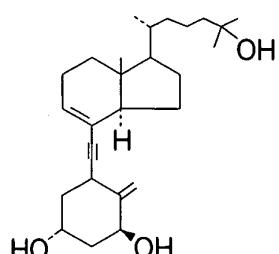
1 $\alpha$ ,25-(OH)<sub>2</sub>-pre-D<sub>3</sub>-  
9,14,19,19,19-d<sub>5</sub>

**HF**



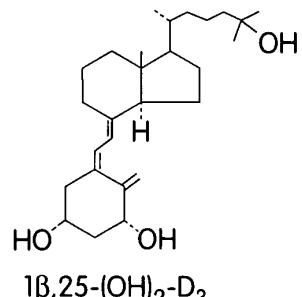
1 $\alpha$ ,25-(OH)<sub>2</sub>-D<sub>3</sub>-  
9,9,14,19,19-d<sub>5</sub>

**HG**



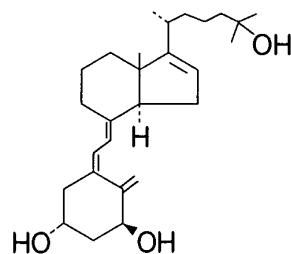
1 $\alpha$ ,25-(OH)<sub>2</sub>-  
6,7-Dehydro-pre-D<sub>3</sub>

**HI**



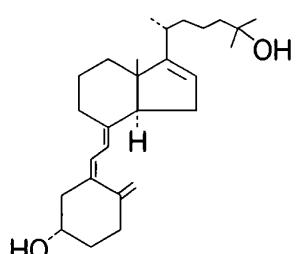
1 $\beta$ ,25-(OH)<sub>2</sub>-D<sub>3</sub>

**HL**



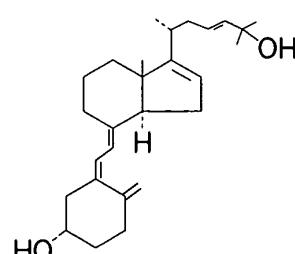
1,25-(OH)<sub>2</sub>-16-Ene-D<sub>3</sub>

**HM**



25-OH-16-Ene-D<sub>3</sub>

**HN**

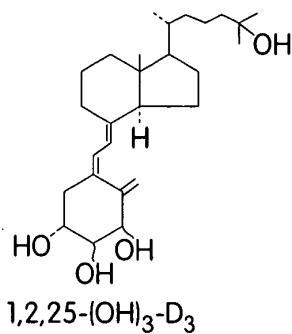


25-OH-16,23-Diene-D<sub>3</sub>

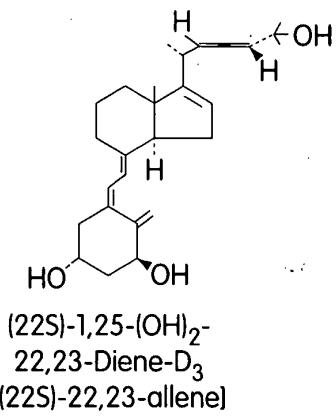
**HO**

Fig. 1Cont.

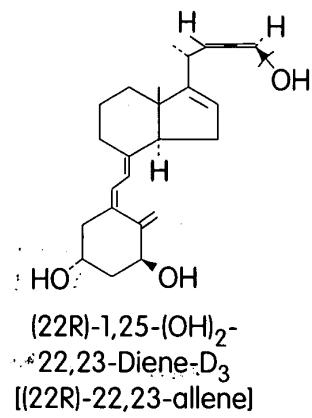
12/36



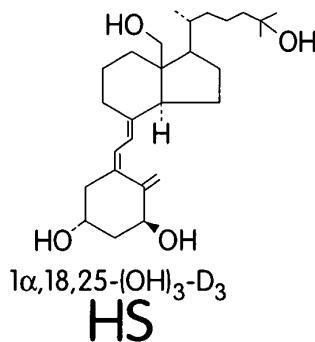
**HP**



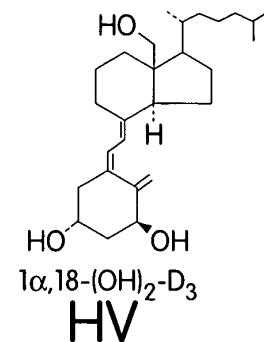
**HQ**



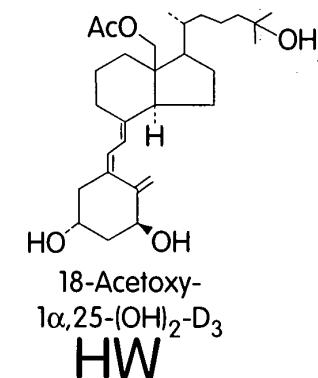
**HR**



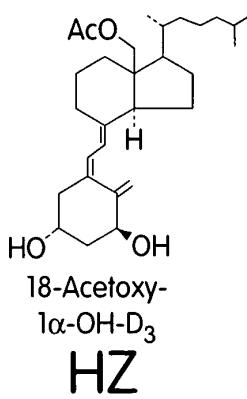
**HS**



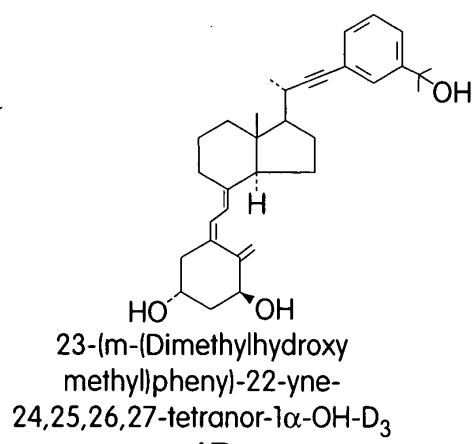
**HV**



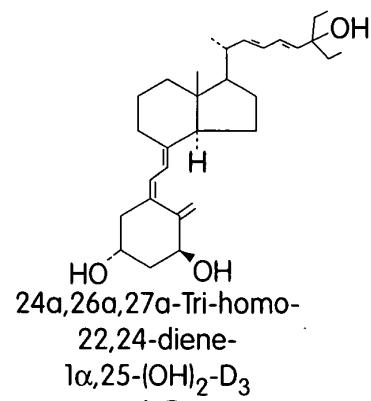
**HW**



**HZ**



**IB**



**IC**

Fig. 1Cont.

13/36

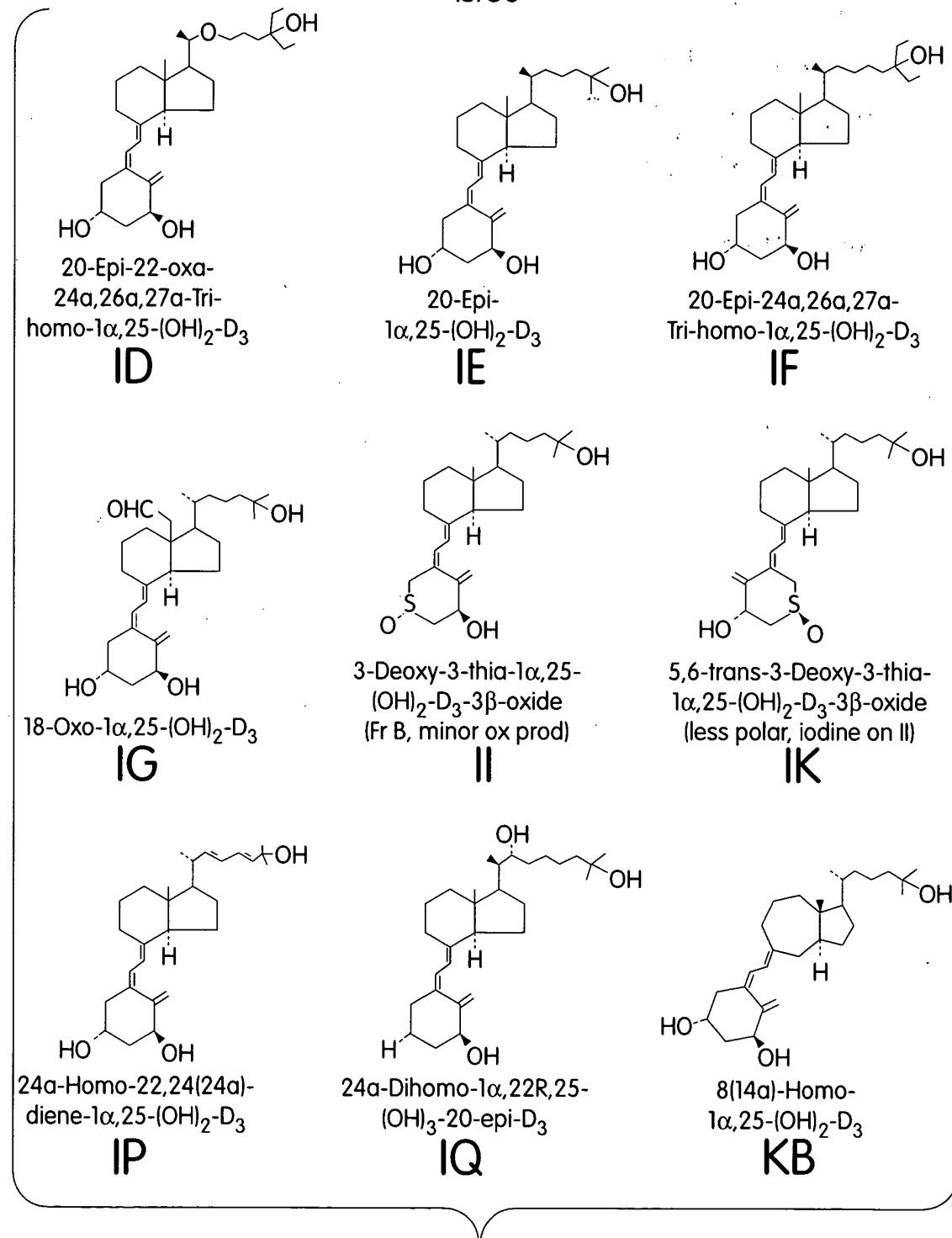
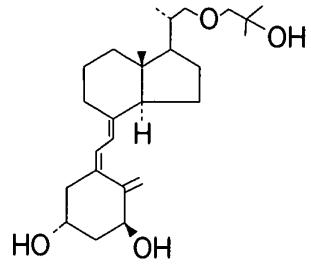


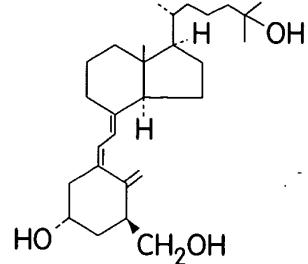
Fig. 1Cont.

14/36



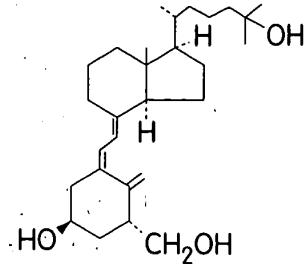
23-Oxa-  
1 $\alpha$ ,25-(OH)<sub>2</sub>-D<sub>3</sub>

KD



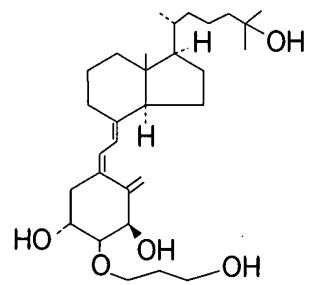
1 $\alpha$ -(hydroxymethyl)-  
25-OH-D<sub>3</sub>

ZAA



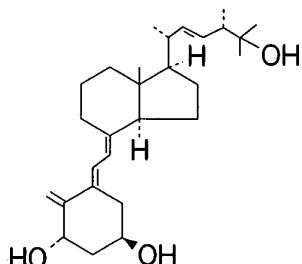
1 $\beta$ -(hydroxymethyl)-  
3 $\alpha$ ,25-(OH)<sub>2</sub>-D<sub>3</sub>

ZAB



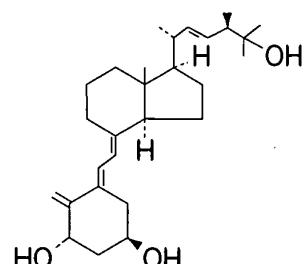
2 $\beta$ -(3-hydroxypropoxy)-  
1 $\alpha$ ,25-(OH)<sub>2</sub>-D<sub>3</sub>

ZAC



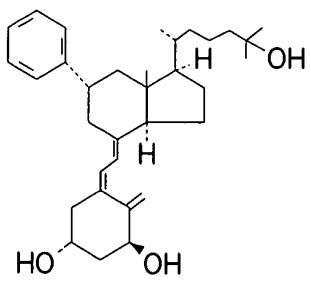
1 $\alpha$ ,25-(OH)<sub>2</sub>-  
24(S)-5,6-t-D<sub>2</sub>

ZAD



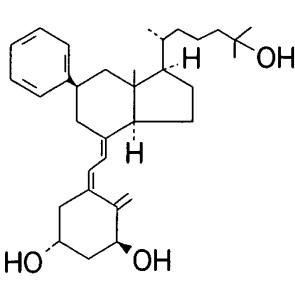
1 $\alpha$ ,25-(OH)<sub>2</sub>-  
24(R)-5,6-t-D<sub>2</sub>

ZAE



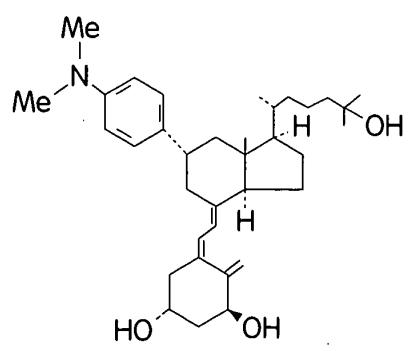
11 $\alpha$ -phenyl-  
1 $\alpha$ ,25-(OH)<sub>2</sub>-D<sub>3</sub>

ZAF



11 $\beta$ -phenyl-  
1 $\alpha$ ,25-(OH)<sub>2</sub>-D<sub>3</sub>

ZAG

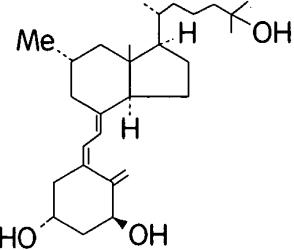


11 $\alpha$ -dimethylaminophenyl-  
1 $\alpha$ ,25-(OH)<sub>2</sub>-D<sub>3</sub>

ZAH

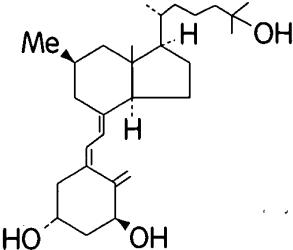
Fig. 1Cont.

15/36



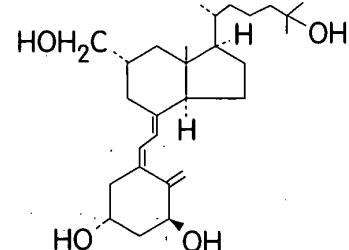
11 $\alpha$ -methyl-  
1 $\alpha$ ,25-(OH)<sub>2</sub>-D<sub>3</sub>

ZAI



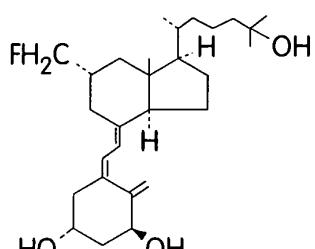
11 $\beta$ -methyl-  
1 $\alpha$ ,25-(OH)<sub>2</sub>-D<sub>3</sub>

ZAJ



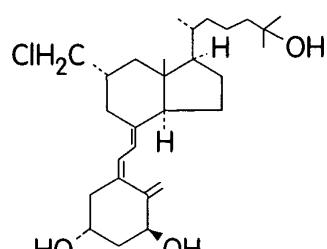
11 $\alpha$ -hydroxymethyl-  
1 $\alpha$ ,25-(OH)<sub>2</sub>-D<sub>3</sub>

ZAK



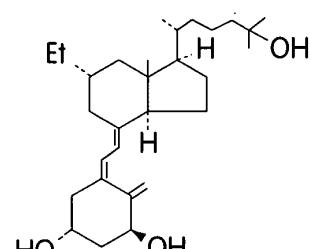
11 $\alpha$ -fluoromethyl-  
1 $\alpha$ ,25-(OH)<sub>2</sub>-D<sub>3</sub>

ZAL



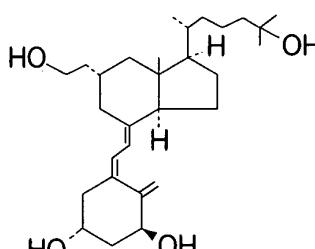
11 $\alpha$ -chloromethyl-  
1 $\alpha$ ,25-(OH)<sub>2</sub>-D<sub>3</sub>

ZAM



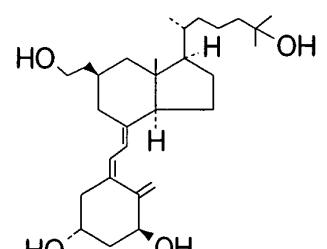
11 $\alpha$ -ethyl-  
1 $\alpha$ ,25-(OH)<sub>2</sub>-D<sub>3</sub>

ZAN



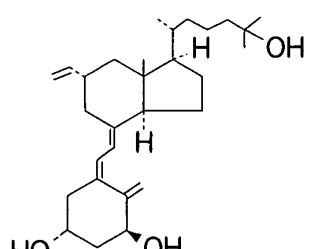
11 $\alpha$ -(2-hydroxyethyl)-  
1 $\alpha$ ,25-(OH)<sub>2</sub>-D<sub>3</sub>

ZAO



11 $\beta$ -(2-hydroxyethyl)-  
1 $\alpha$ ,25-(OH)<sub>2</sub>-D<sub>3</sub>

ZAP



11 $\alpha$ -vinyl-  
1 $\alpha$ ,25-(OH)<sub>2</sub>-D<sub>3</sub>

ZAQ

Fig. 1Cont.

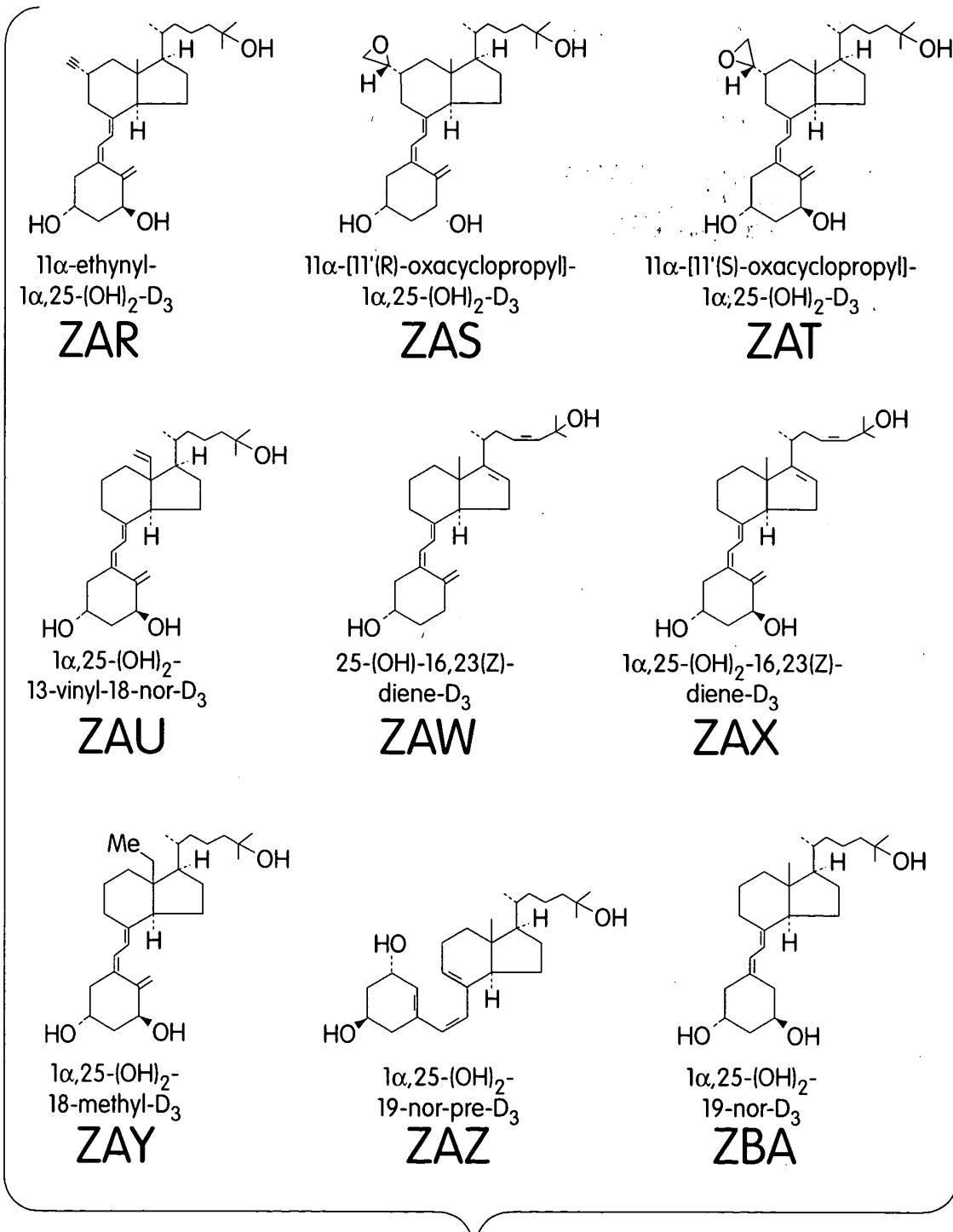


Fig. 1Cont.

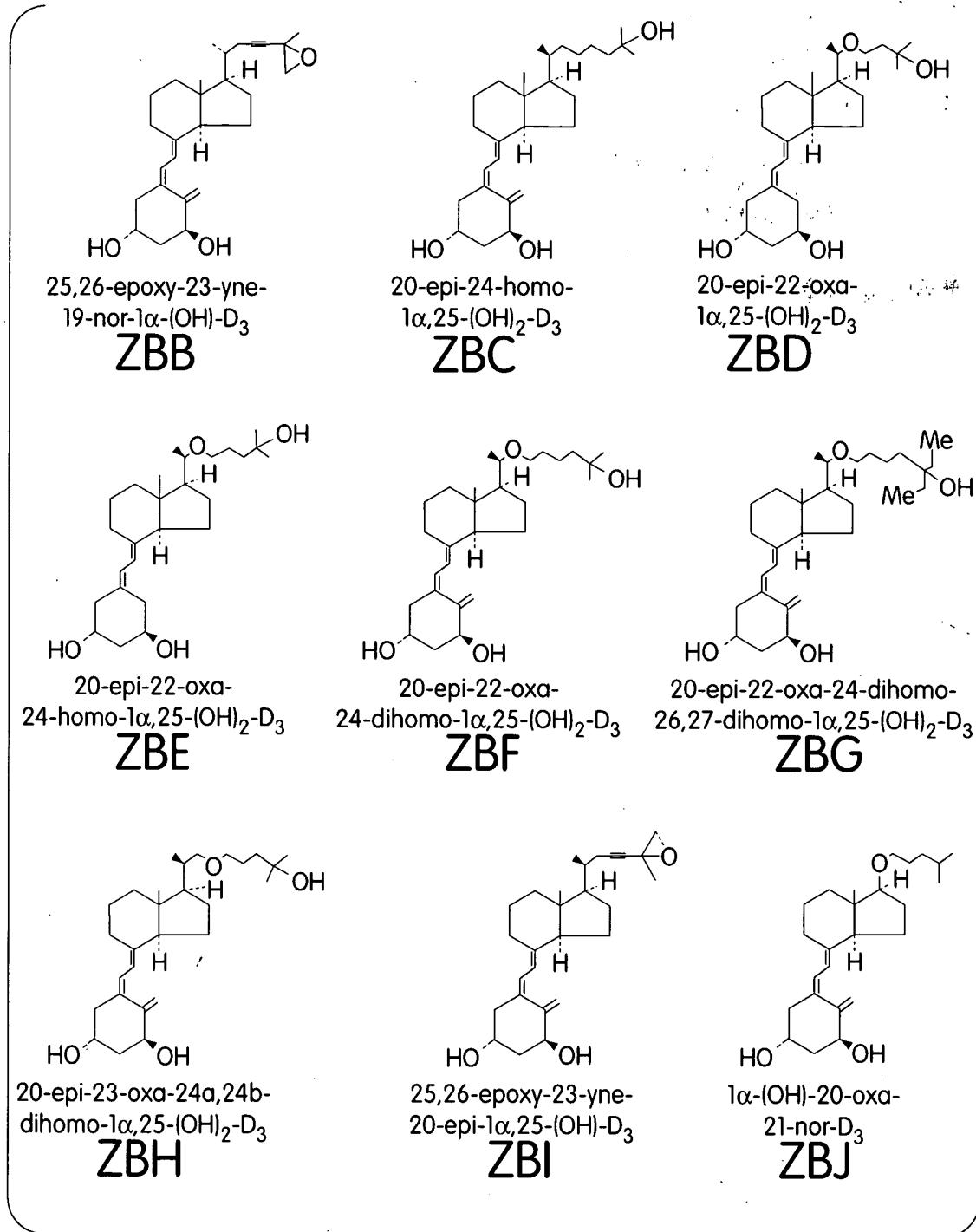


Fig. 1Cont.

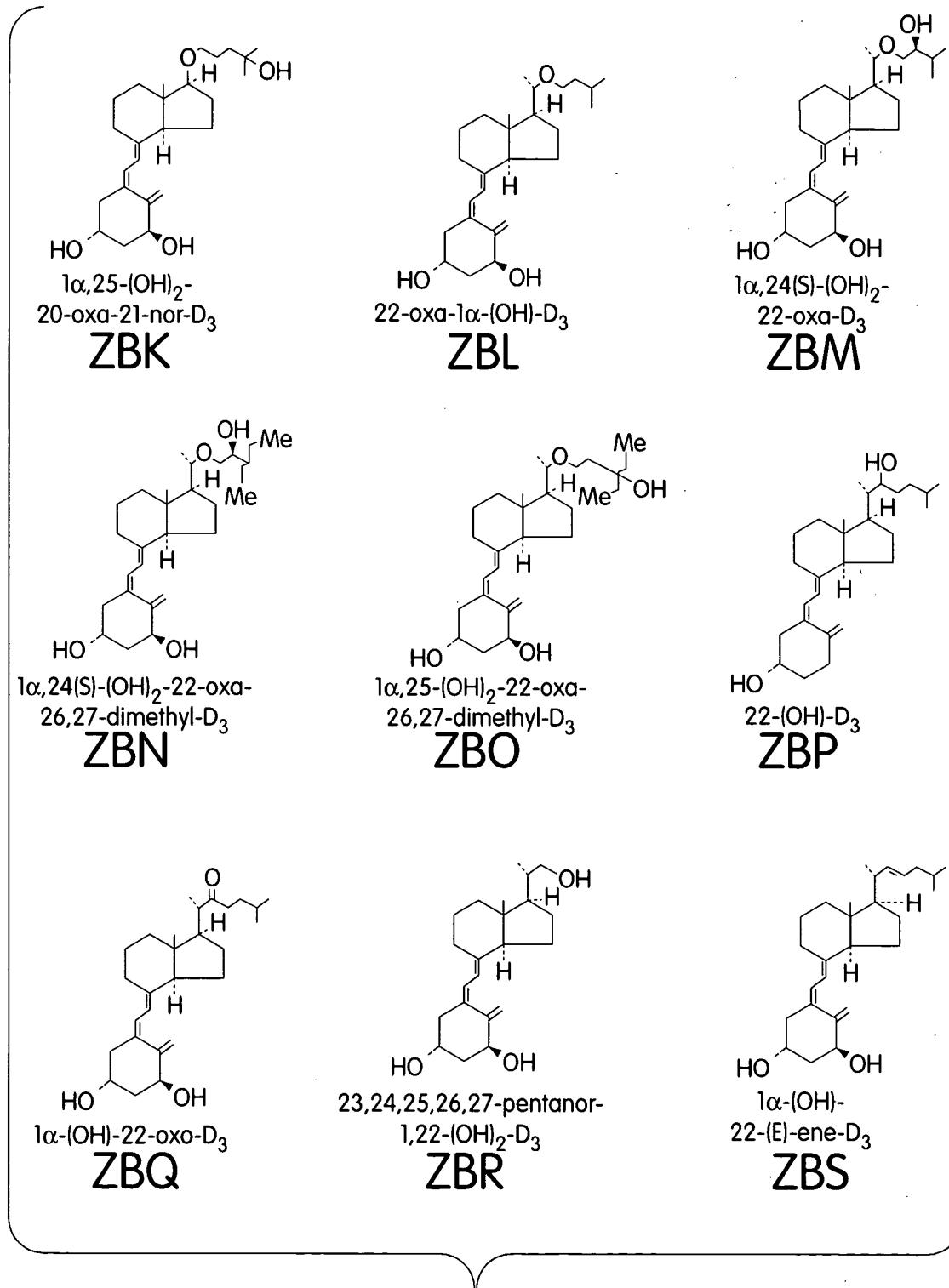


Fig. 1Cont.

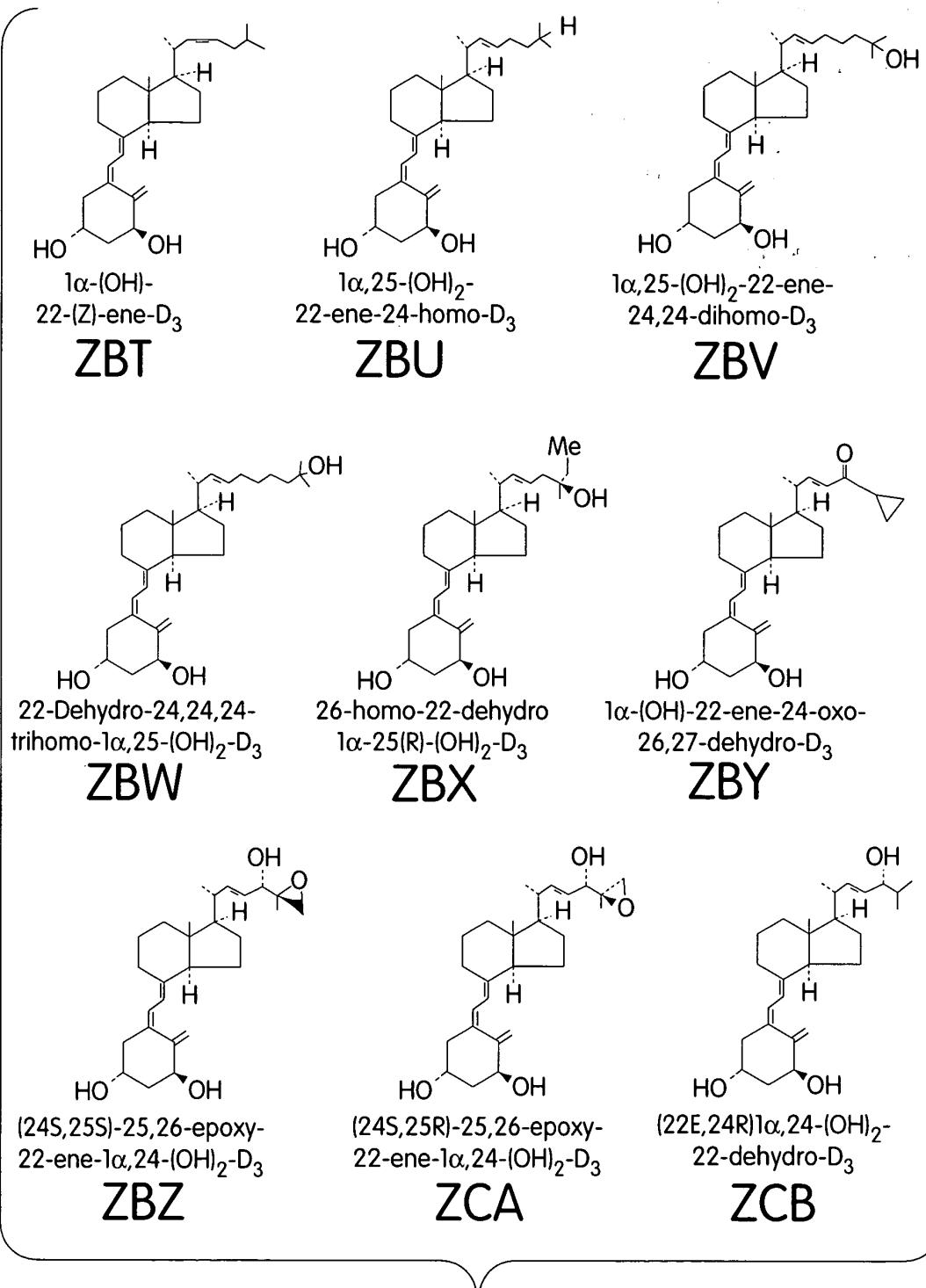


Fig. 1Cont.

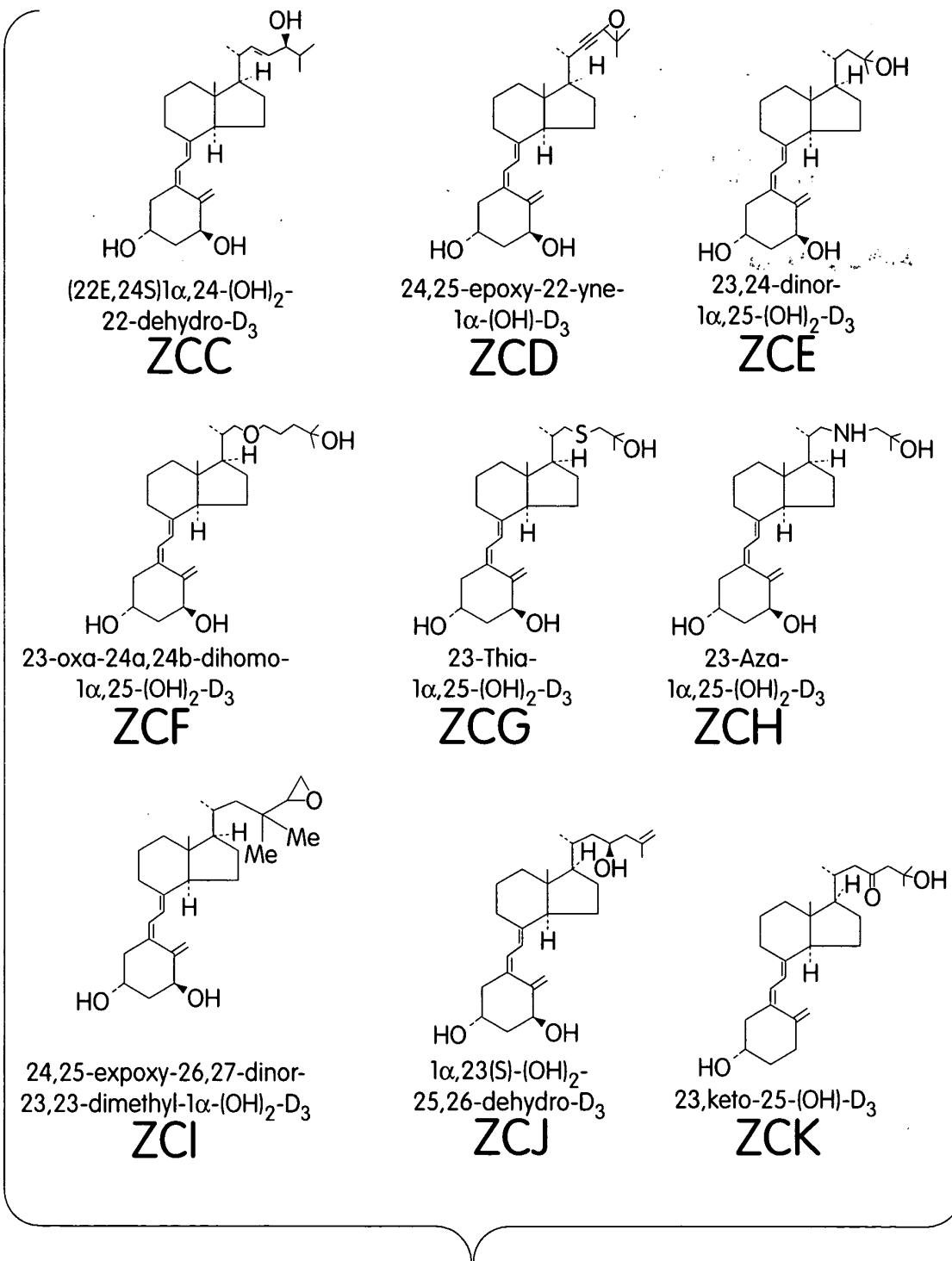


Fig. 1Cont.

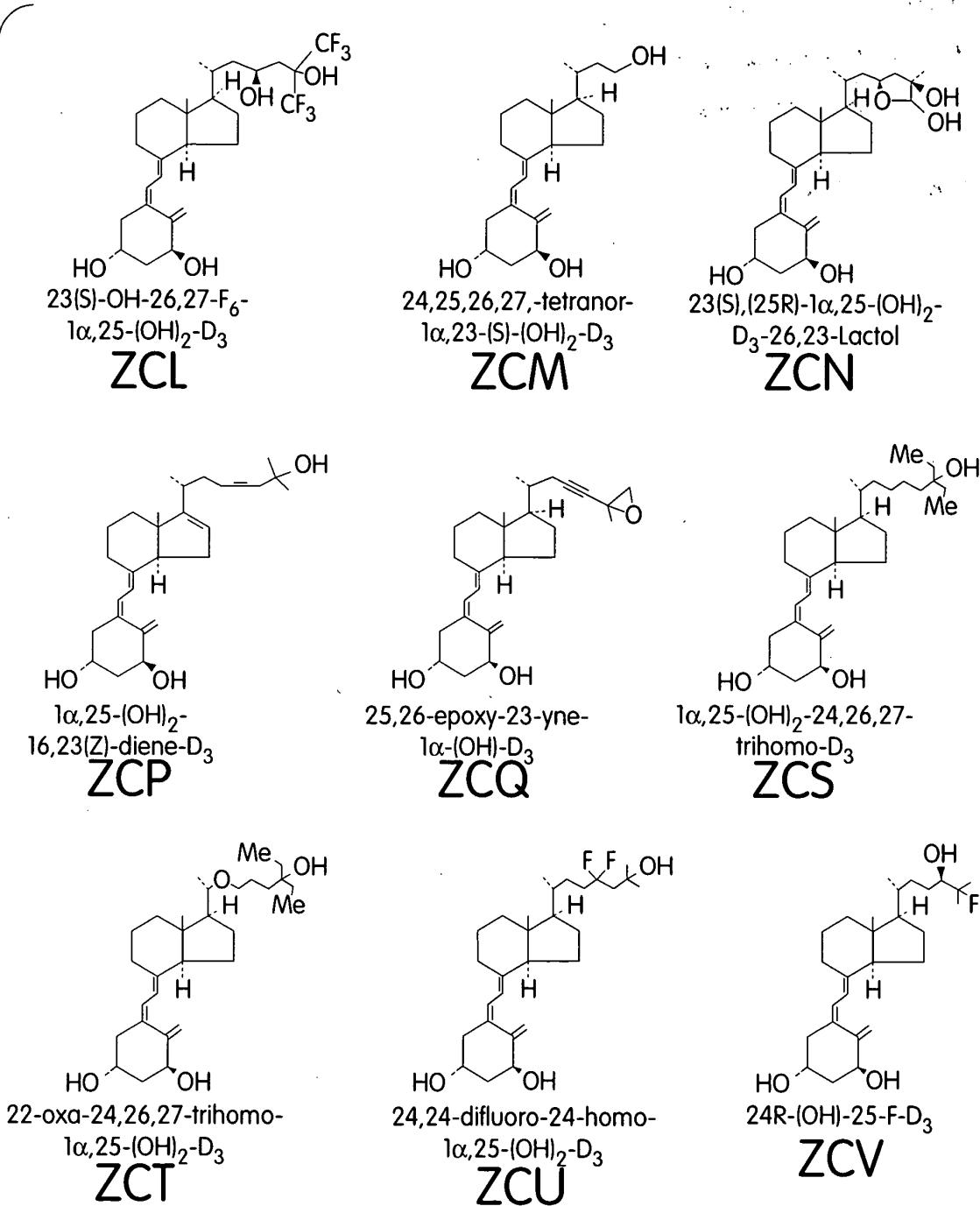


Fig. 1Cont.

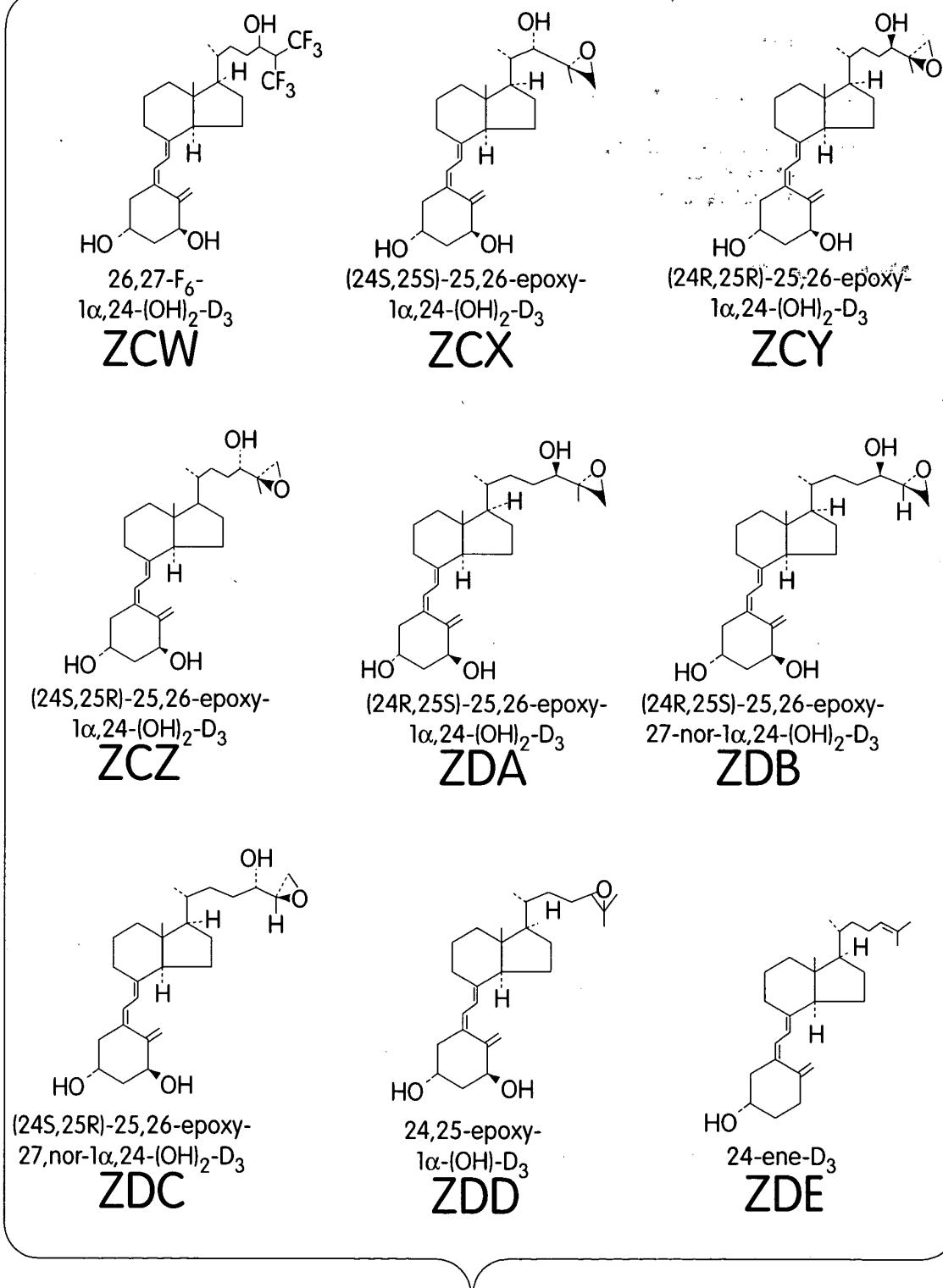


Fig. 1Cont.

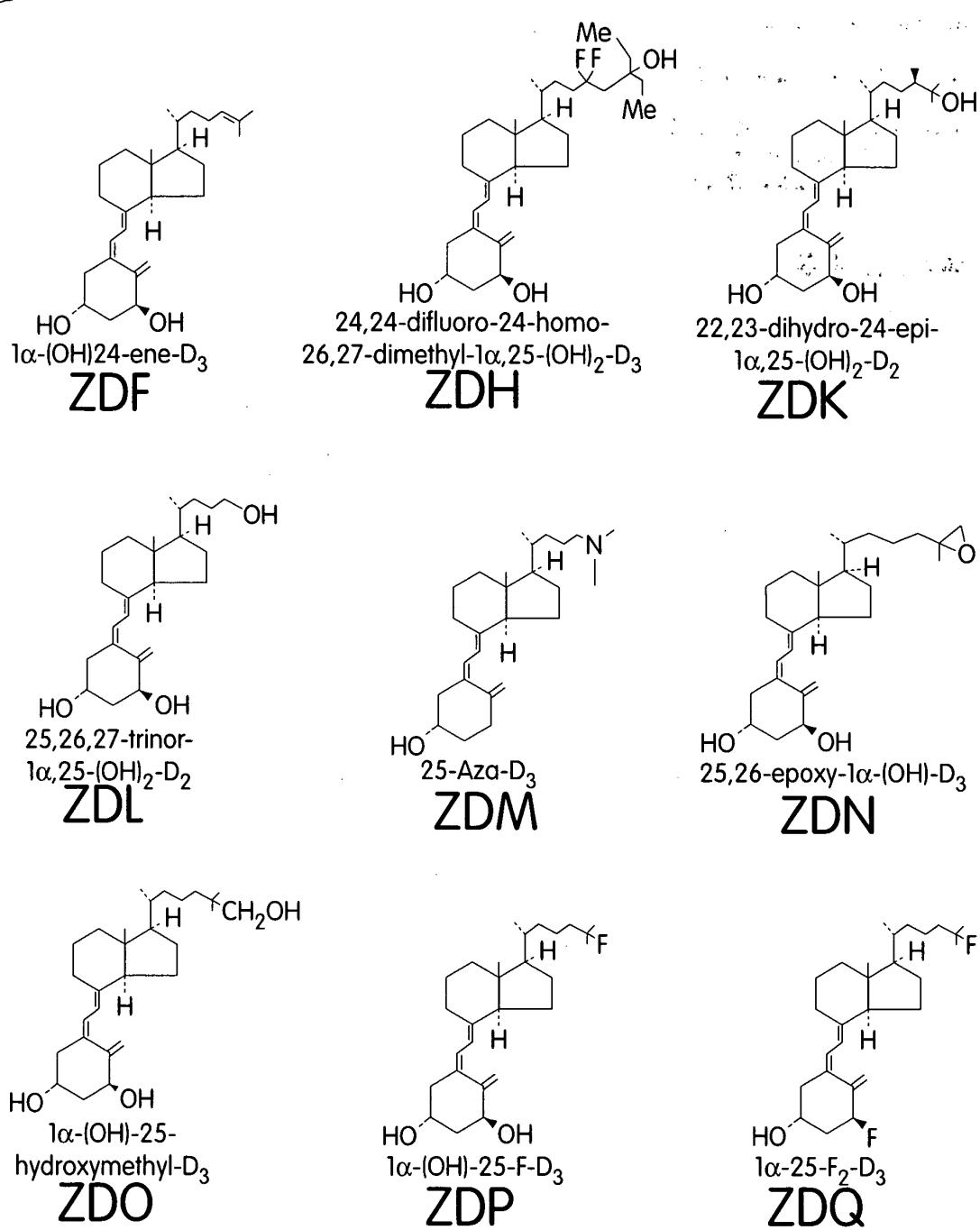


Fig. 1 Cont.

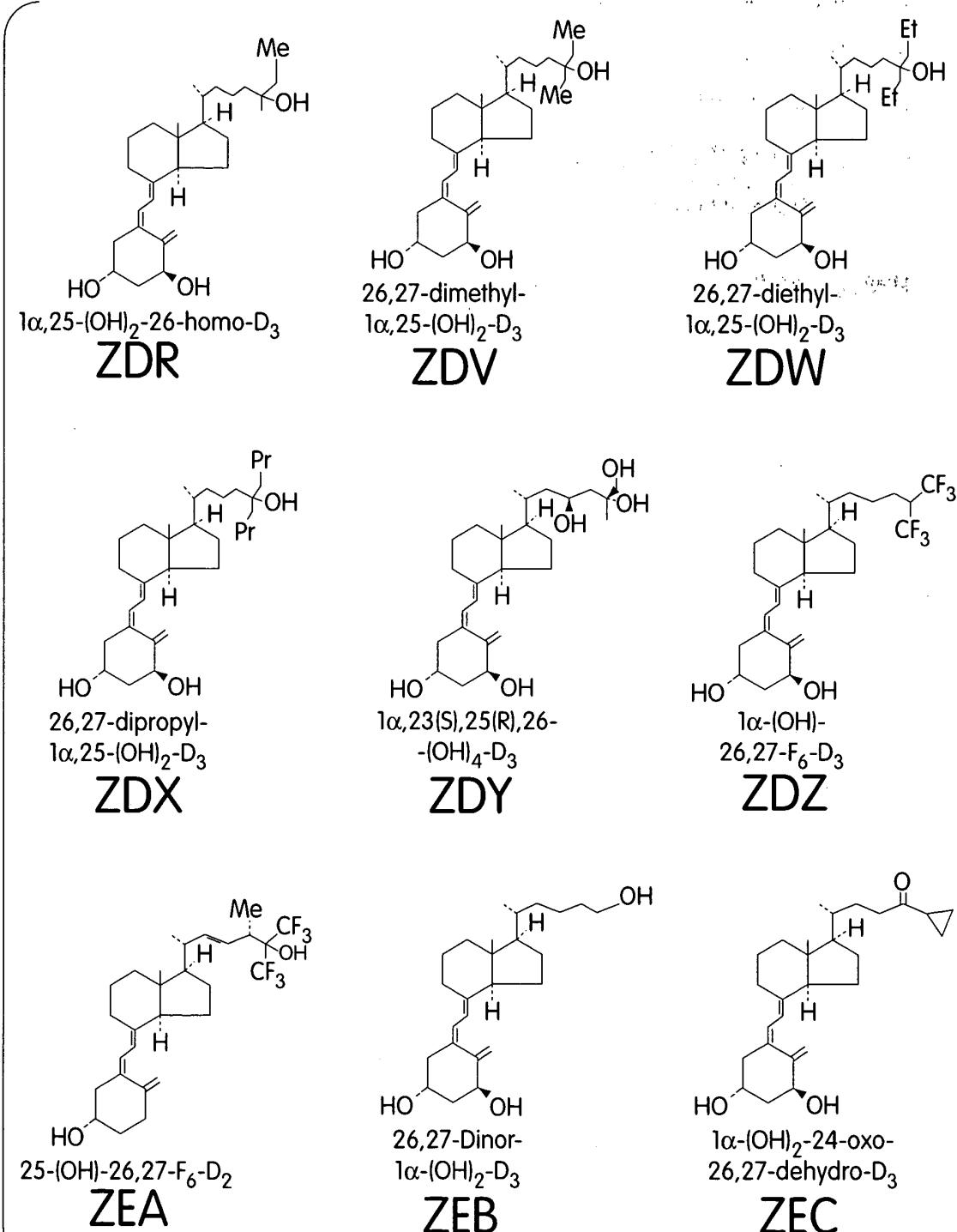


Fig. 1Cont.

25/36

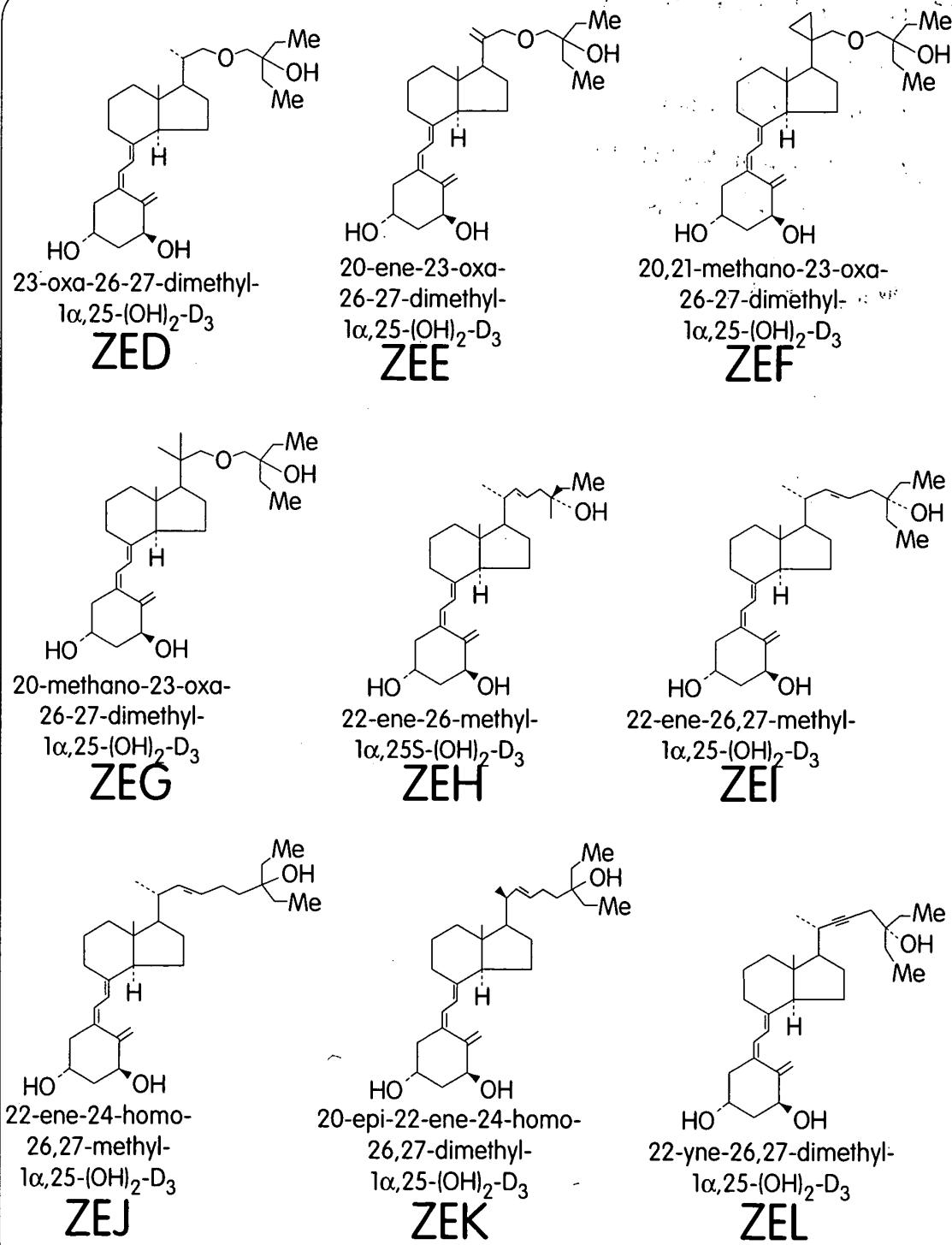


Fig. 1Cont.

26/36

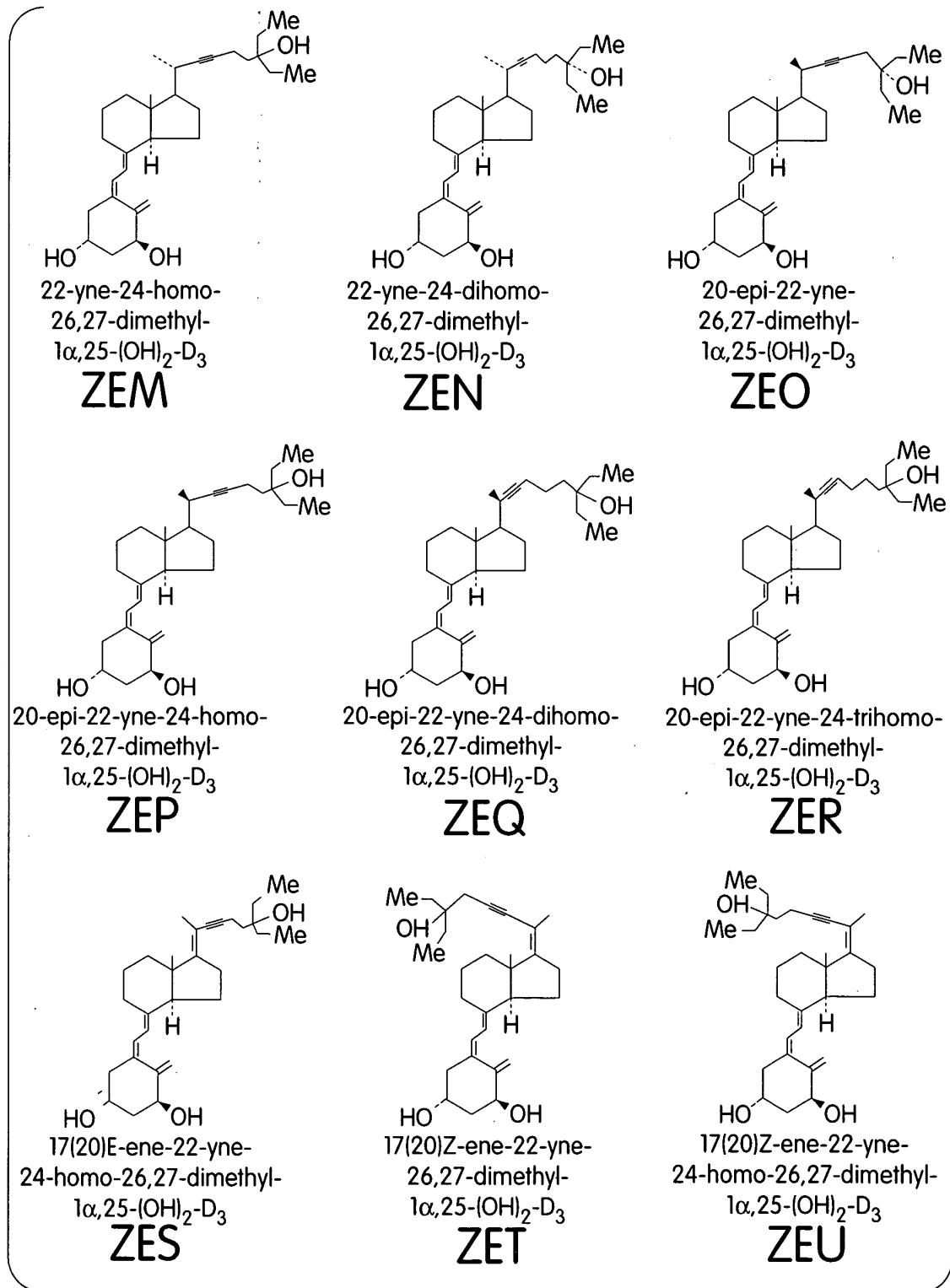


Fig. 1Cont.

27/36

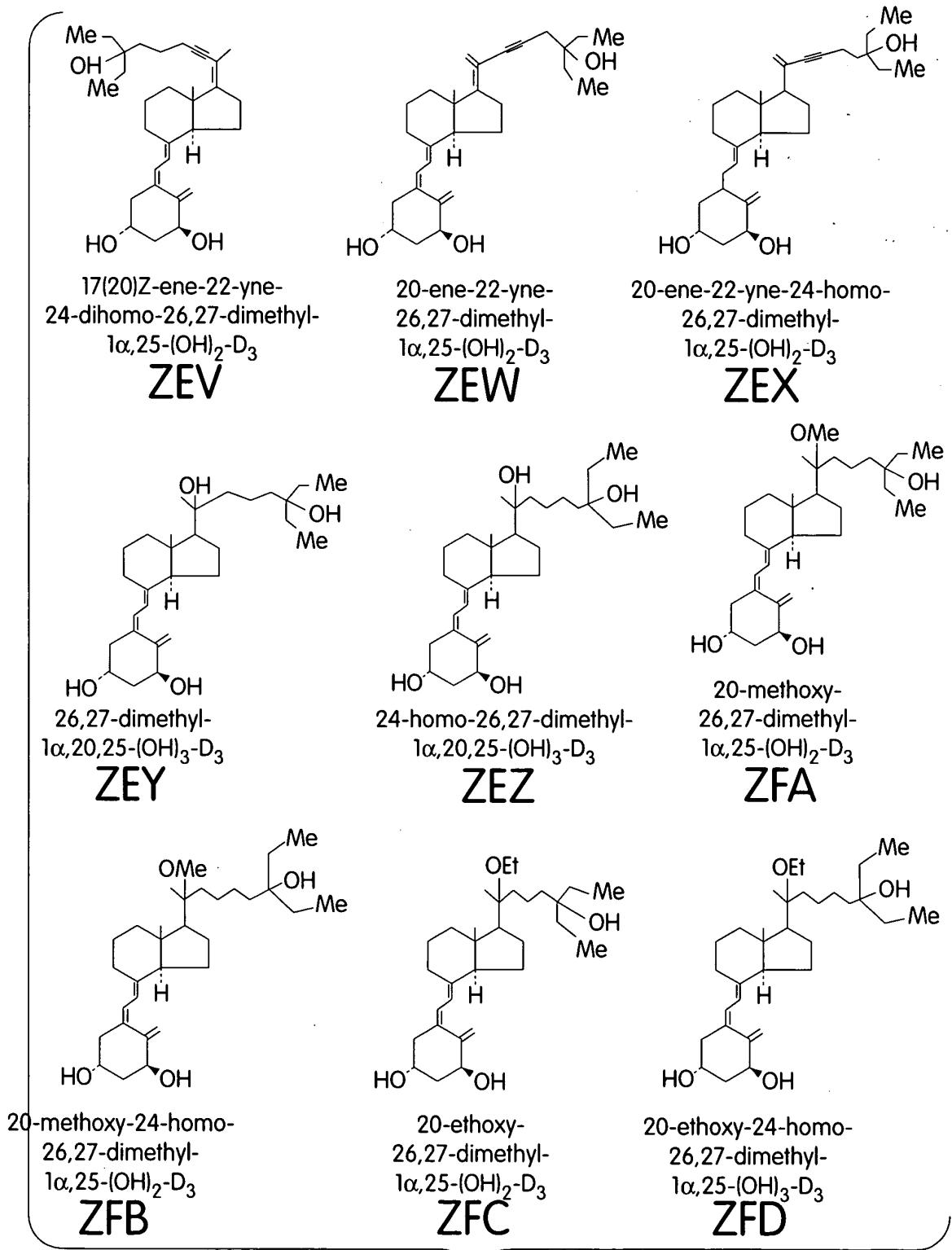


Fig. 1Cont.

28/36

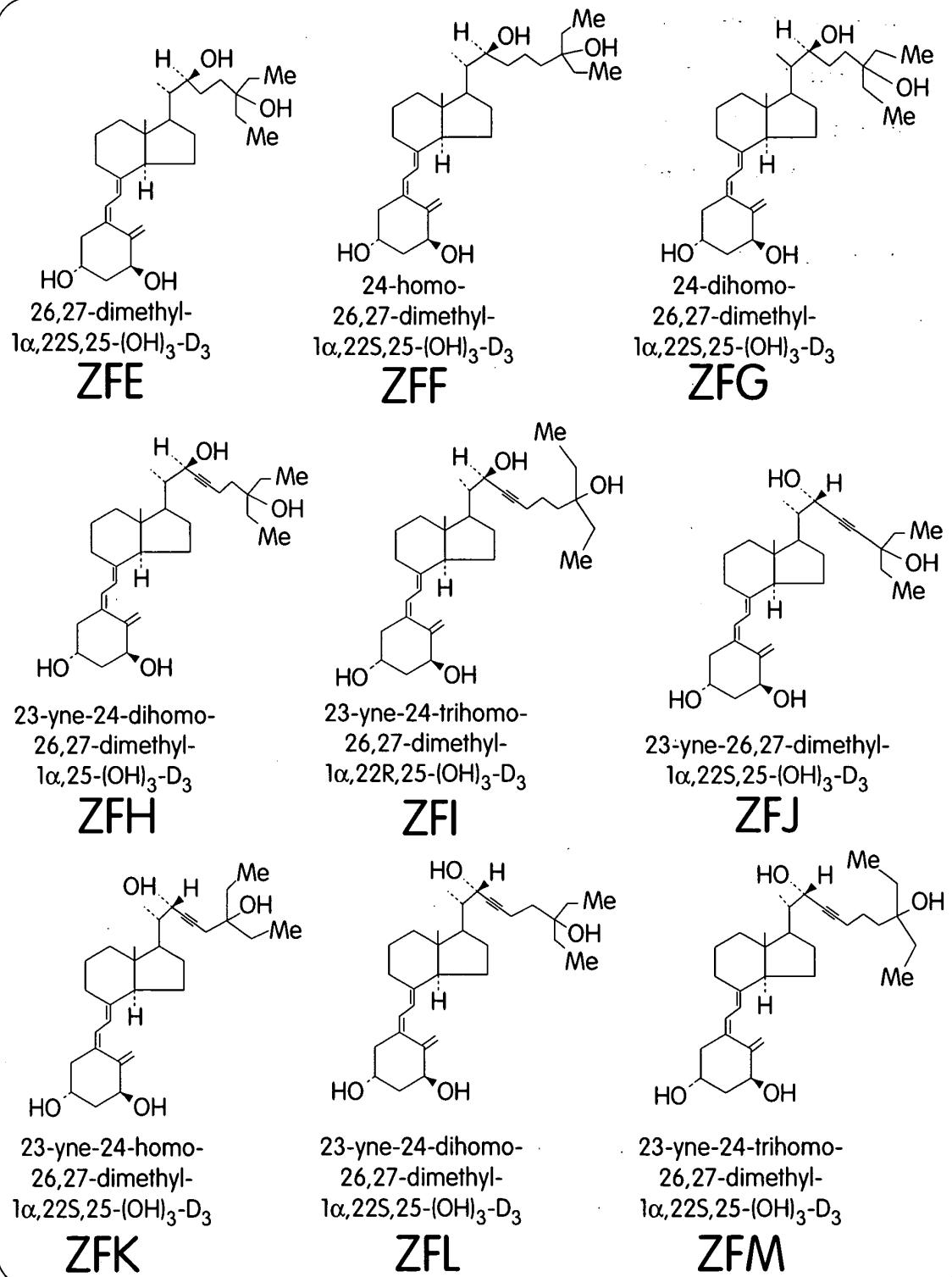


Fig. 1 Cont.

29/36

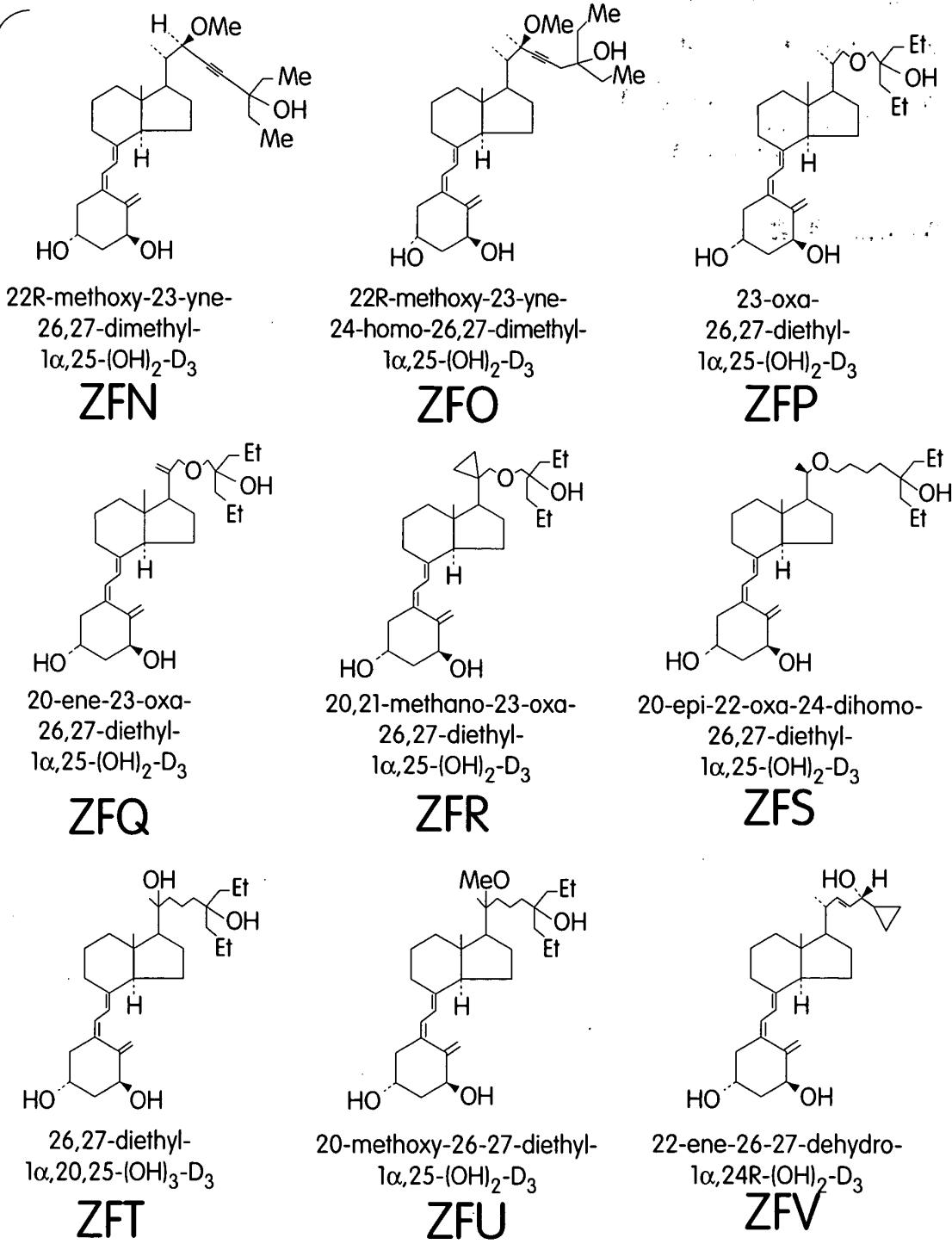


Fig. 1Cont.

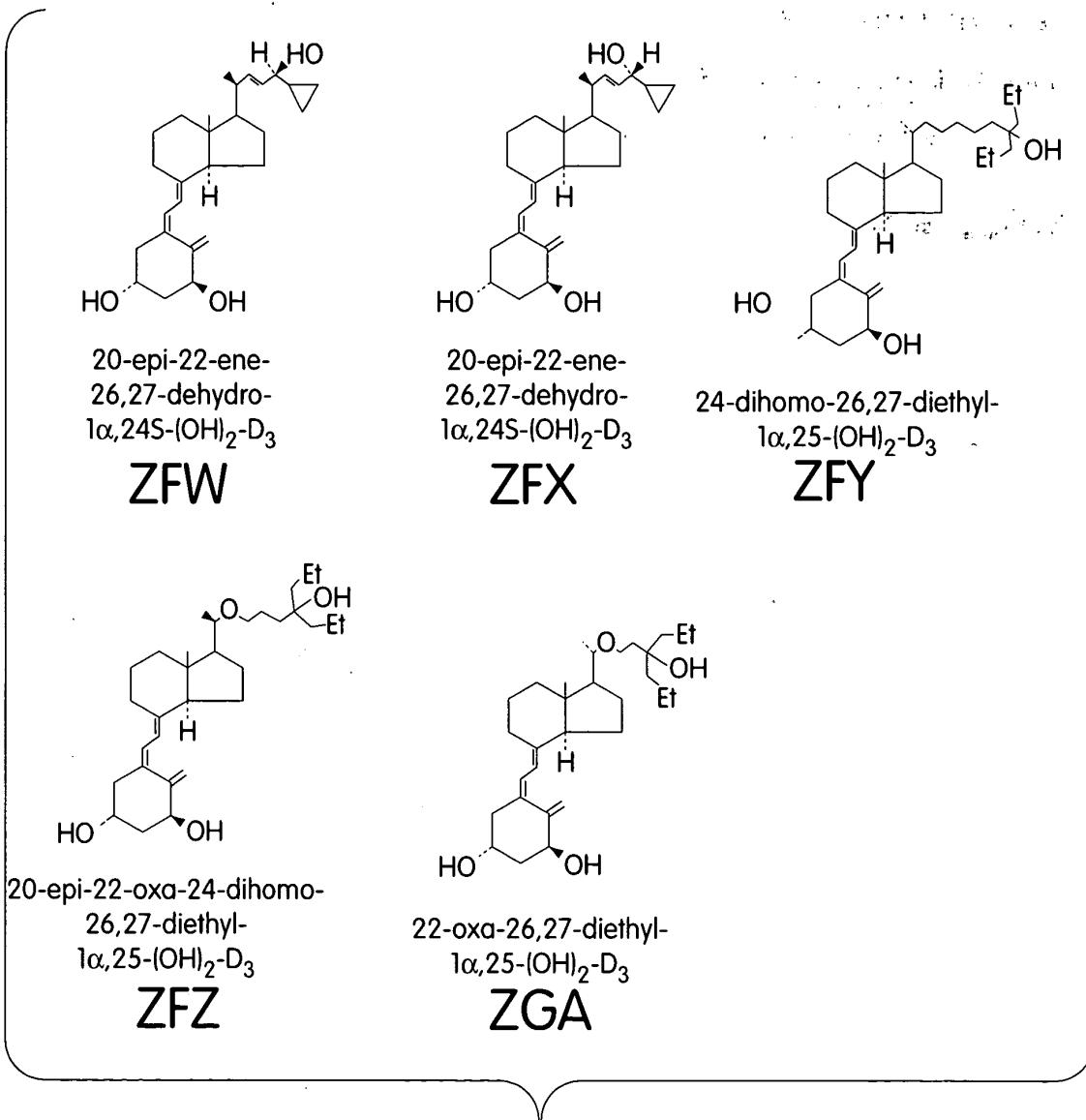


Fig. 1Cont.

31/36

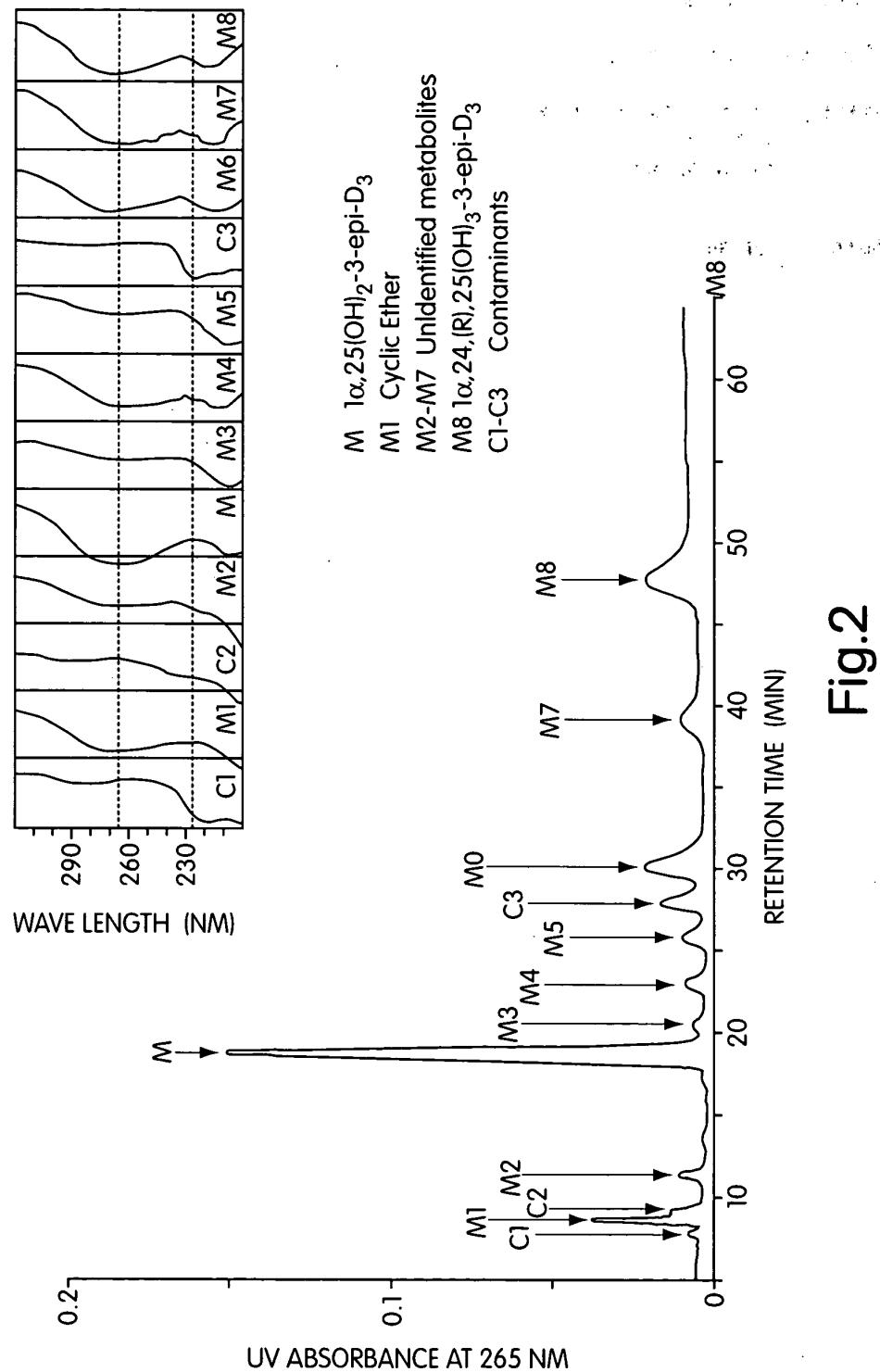


Fig.2

32/36

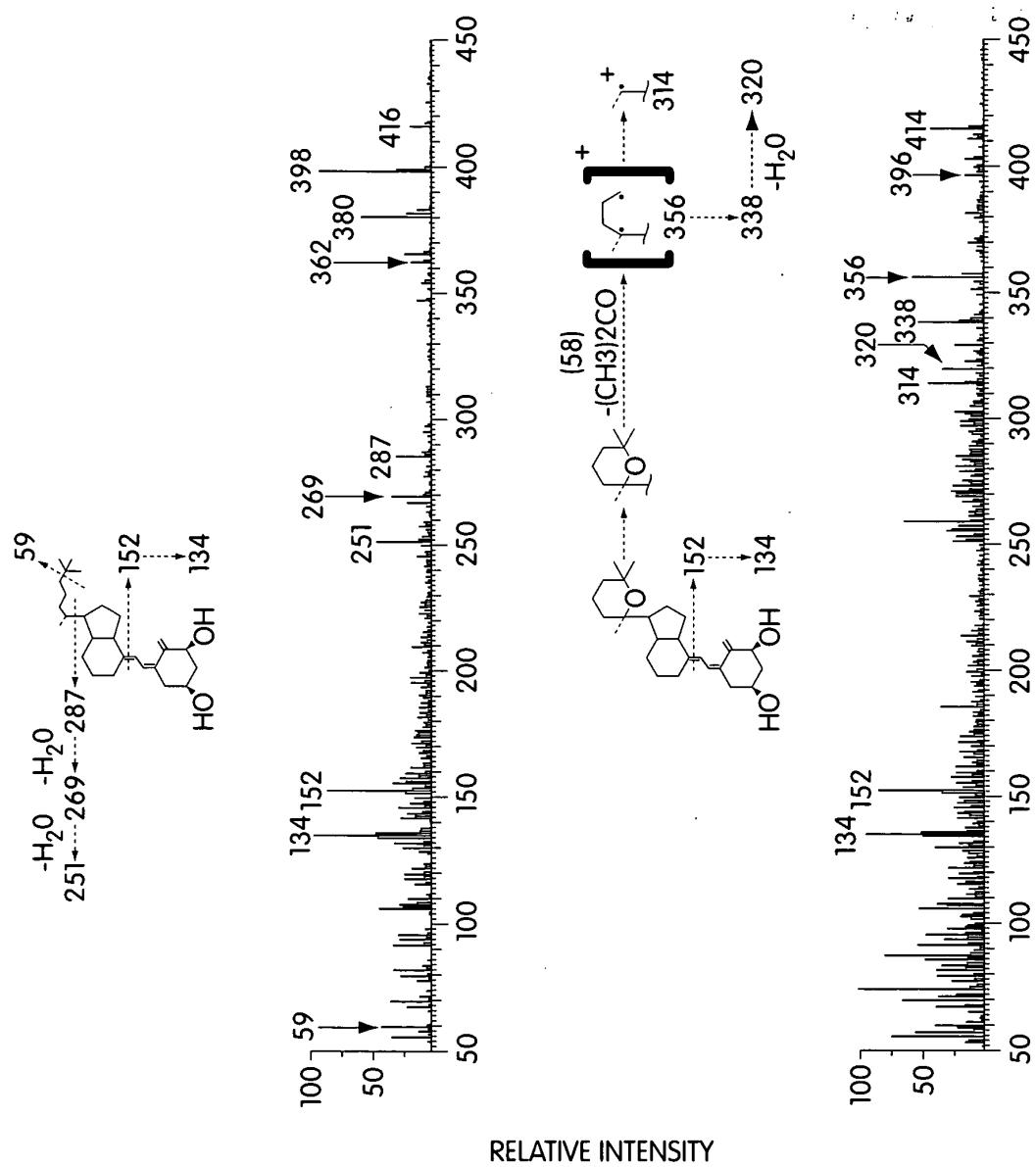


Fig. 3

33/36

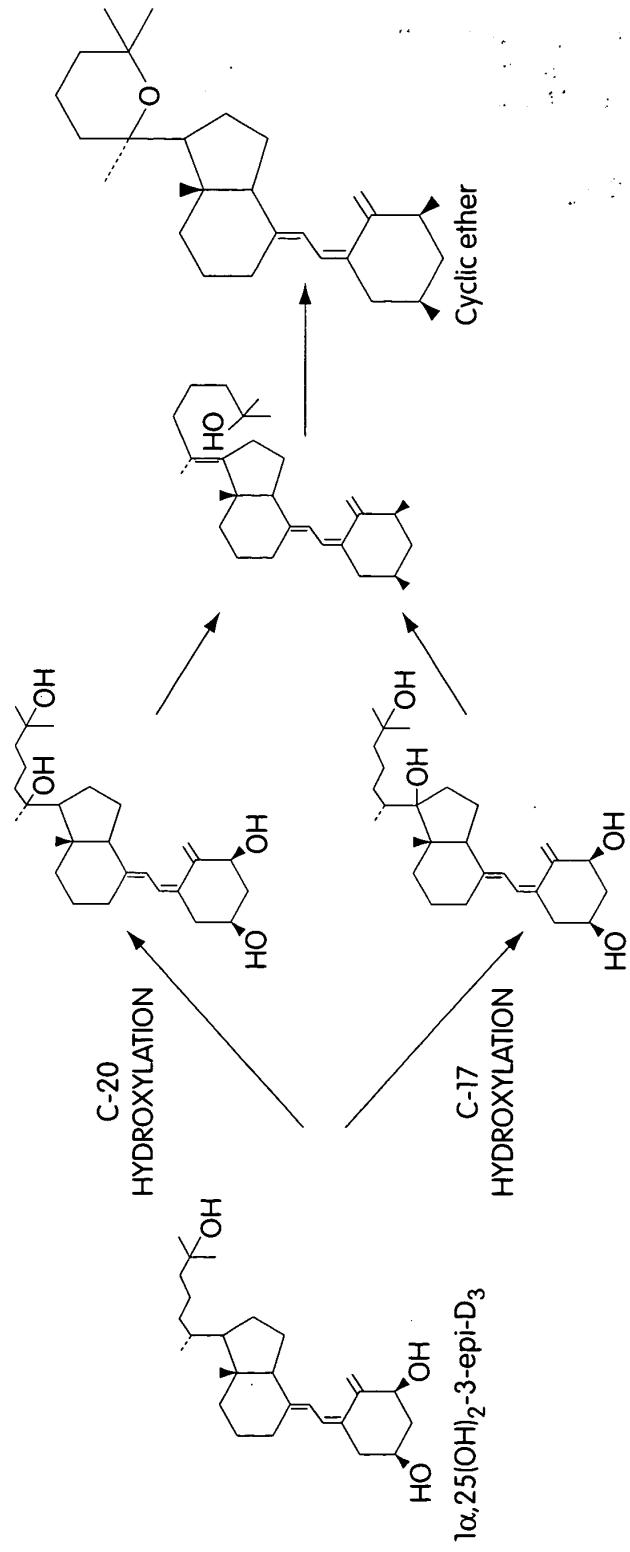


Fig. 4

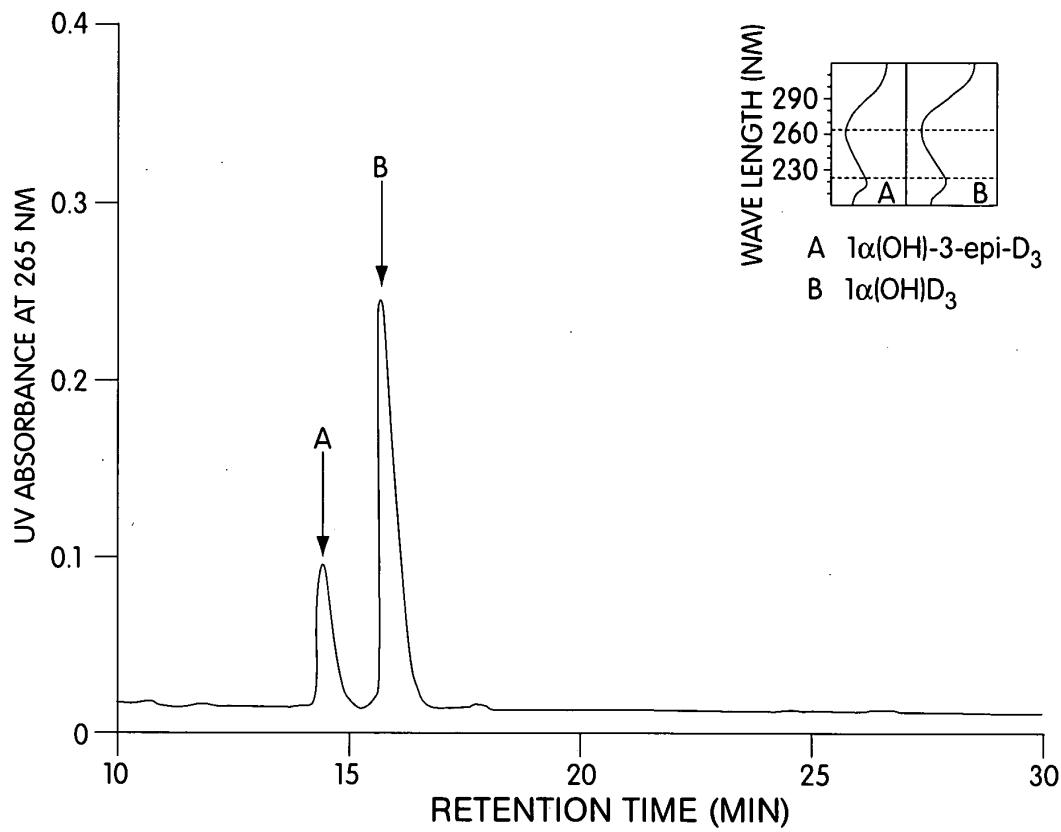


Fig. 5A

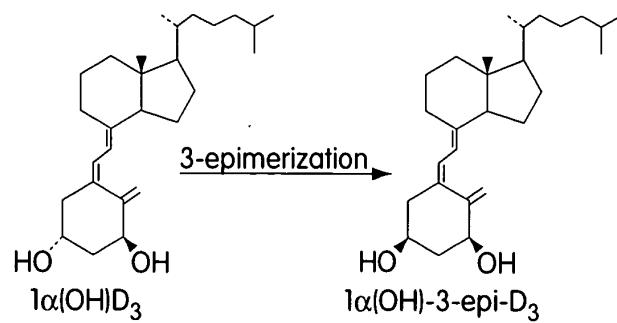


Fig. 5B

35/36

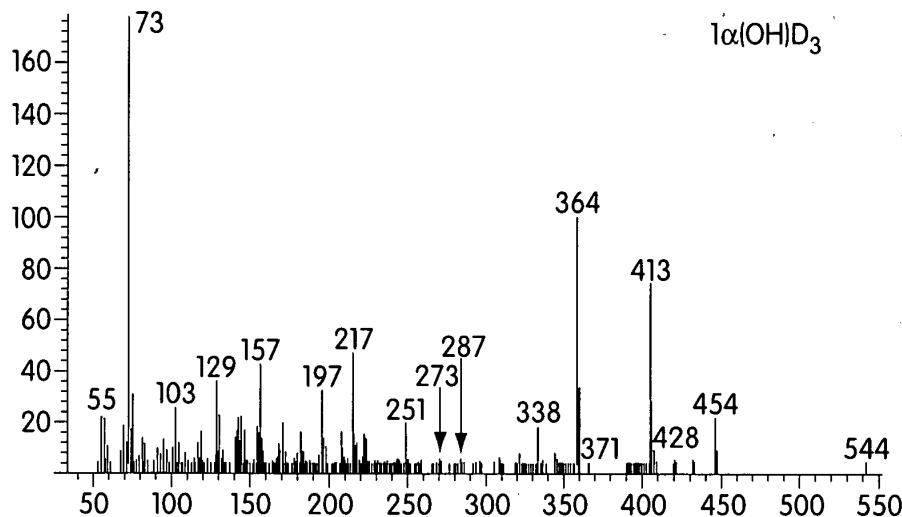


Fig. 6A

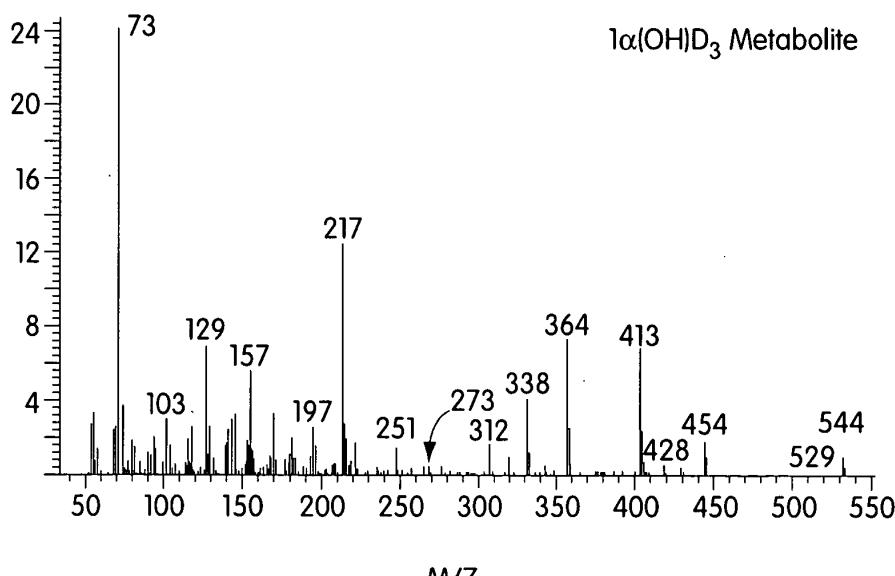


Fig. 6B

36/36

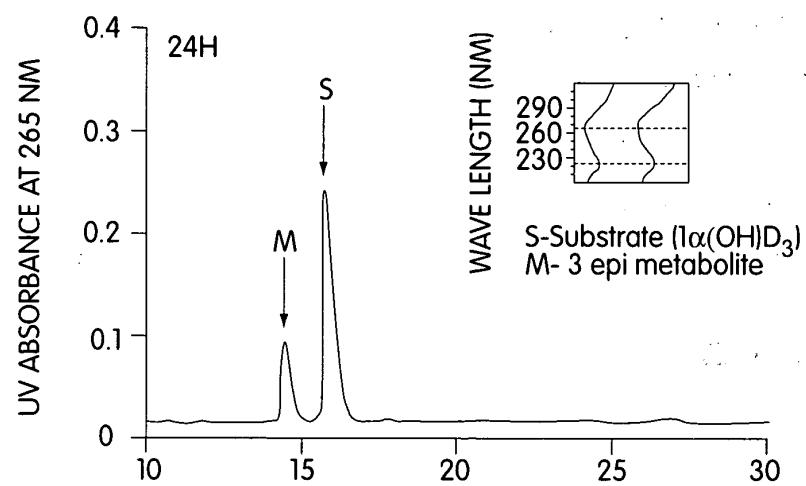


Fig. 7A

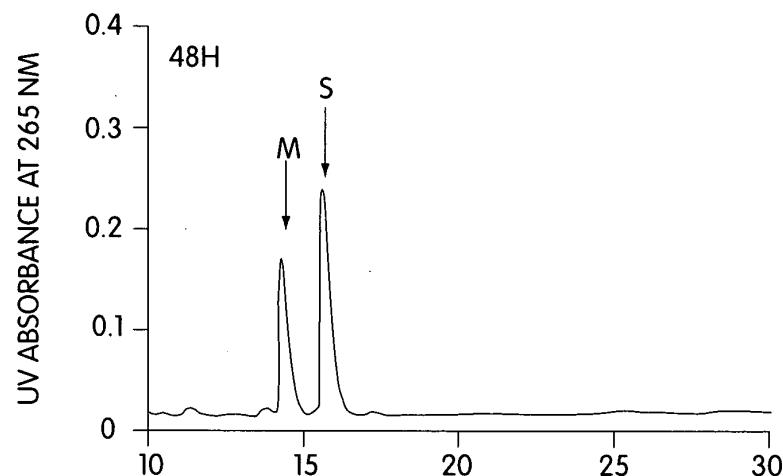


Fig. 7B

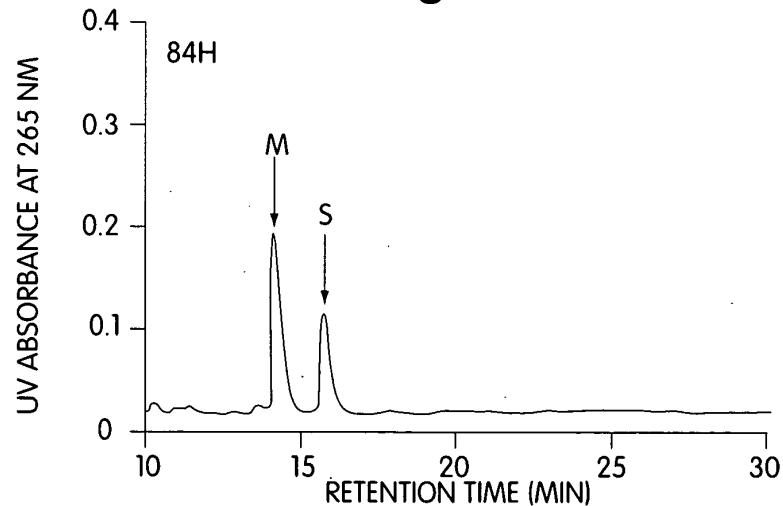


Fig. 7C